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INSTRUMENT APPROACH PROCEDURE CHARTS

A IFR ALTERNATE AIRPORT MINIMUMS

Standard alternate minimums for non precision approaches are 800-2 (NDB, VOR, LOC, TACAN, LDA, VORTAC, VOR/DME, ASR or WAAS LNAV); for precision approaches 600-2 (ILS or PAR). Airports within this geographical area that require alternate minimums other than standard or alternate minimums with restrictions are listed below. NA - means alternate minimums are not authorized due to unmonitored facility or absence of weather reporting service. Civil pilots see FAR 91. IFR Alternate Airport Minimums: Ceiling and Visibility Minimums not applicable to USA/USN/USAF. Pilots must review the IFR Alternate Airport Minimums Notes for alternate airfield suitability.

NAME	ALTERNATE MINIMUMS
ABERDEEN, SD	
ABERDEEN RGNL	**RNAV (GPS) Rwy 13** **RNAV (GPS) Rwy 31** **RNAV (GPS) Rwy 35** **VOR Rwy 31** **VOR/DME Rwy 13**
NA when local weather not available.	
ALBERT LEA, MN	
ALBERT LEA MUNI	**RNAV (GPS) Rwy 16**
NA when local weather not available.	
ALEXANDRIA, MN	
CHANDLER FIELD	**RNAV (GPS) Rwy 31**
NA when local weather not available.	
AUSTIN, MN	
AUSTIN MUNI	**RNAV (GPS) Rwy 17** **RNAV (GPS) Rwy 35** **VOR/DME-A**
NA when local weather not available.	
BAUDETTE, MN	
BAUDETTE INTL	**RNAV (GPS) Rwy 30**[1] **VOR/DME Rwy 12**[2] **VOR Rwy 30**[2]
[1]NA when local weather not available. [2]Category C, 800-2¼; Category D, 800-2½.	
BEMIDJI, MN	
BEMIDJI RGNL	**RNAV (GPS) Rwy 13** **RNAV (GPS) Rwy 31**
NA when local weather not available.	
BENSON, MN	
BENSON MUNI	**RNAV (GPS) Rwy 14** **RNAV (GPS) Rwy 32**
NA when local weather not available.	
BISMARCK, ND	
BISMARCK MUNI	**ILS Rwy 13**[1,2] **ILS Rwy 31**[1,2] **RADAR-1**[3]
[1]ILS, Category D, 800-2½; Category E, 900-3. LOC, NA. [2]NA when control tower not in operation. [3]NA when control tower closed.	
BRAINERD, MN	
BRAINERD LAKES RGNL	**ILS or LOC Rwy 23** **RNAV (GPS) Rwy 12** **RNAV (GPS) Rwy 23** **RNAV (GPS) Rwy 30** **RNAV (GPS) Rwy 34**
NA when local weather not available.	
BROOKINGS, SD	
BROOKINGS RGNL	**RNAV (GPS) Rwy 12** **RNAV (GPS) Rwy 30**
NA when local weather not available.	
CANBY, MN	
MYERS FIELD	**RNAV (GPS) Rwy 12** **RNAV (GPS) Rwy 30**
NA when local weather not available.	
CLOQUET, MN	
CLOQUET CARLTON COUNTY	**RNAV (GPS) Rwy 35**
NA when local weather not available.	
COOK, MN	
COOK MUNI	**RNAV (GPS) Rwy 31**
NA when local weather not available.	
CROOKSTON, MN	
CROOKSTON MUNI-KIRKWOOD FIELD	**RNAV (GPS) Rwy 13**[1] **RNAV (GPS) Rwy 31**[1] **VOR Rwy 31**[2]
[1]NA when local weather not available. [2]Category A,B, 900-2; Category C, 900-2¼.	

NAME ALTERNATE MINIMUMS

DETROIT LAKES, MN

DETROIT LAKES-
WETHING FIELD ..... **RNAV (GPS) Rwy 13**
RNAV (GPS) Rwy 31
NA when local weather not available.
Category D, 800-2¼.

DEVILS LAKE, ND

DEVILS LAKE RGNL ..... **RNAV (GPS) Rwy 3**
RNAV (GPS) Rwy 13
RNAV (GPS) Rwy 31
VOR Rwy 3[1]
VOR Rwy 21[2]
NA when local weather not available.
[1]Categories A,B, 900-2; Category C, 900-2½; Category D, 900-2¾.
[2]Category C, 800-2¼, Category D, 800-2½.

DICKINSON, ND

DICKINSON-THEODORE
ROOSEVELT RGNL ..... **RNAV (GPS) Rwy 14**
RNAV (GPS) Rwy 32
VOR-A
NA when local weather not available.

DODGE CENTER, MN

DODGE CENTER ..... **RNAV (GPS) Rwy 16**
RNAV (GPS) Rwy 34
VOR-A
NA when local weather not available.

DULUTH, MN

DULUTH INTL ..... **COPTER ILS Rwy 9**
COPTER ILS Rwy 27
ILS Rwy 9
LOC, NA.

EVELETH, MN

EVELETH-VIRGINIA
MUNI ..... **VOR/DME or GPS-A**
Category C, 800-2¼; Category D,800-2½.

FAIRMONT, MN

FAIRMONT MUNI ..... **RNAV (GPS) Rwy 13**
RNAV (GPS) Rwy 31
VOR Rwy 13
VOR Rwy 31
NA when local weather not available.

NAME ALTERNATE MINIMUMS

FARGO, ND

HECTOR INTL ..... **ILS or LOC Rwy 18[1]**
ILS or LOC Rwy 36[1]
RNAV (GPS) Rwy 18[2]
RNAV (GPS) Rwy 36[2]
VOR/DME or TACAN Rwy 18[2]
VOR or TACAN Rwy 36[3]
[1]ILS, Category E, 700-2¼. LOC, Category E, 800-2¼.
[2]Category E, 800-2¼.
[3]Category D, 800-2¼, Category E, 800-2½.

FERGUS FALLS, MN

FERGUS FALLS MUNI-EINAR
MICKELSON FIELD ..... **ILS or LOC Rwy 31[1]**
NDB Rwy 31[2]
RNAV (GPS) Rwy 31[2]
RNAV (GPS) Rwy 35
NA when local weather not available.
[1]ILS, Category D, 700-2¼. LOC, Category D, 800-2¼.
[2]Category D, 800-2¼.

GLENCOE, MN

GLENCOE MUNI ..... **RNAV (GPS) Rwy 31**
NA when local weather not available.

GRAND FORKS, ND

GRAND FORKS INTL ... **ILS or LOC Rwy 35L[12]**
LOC BC Rwy 17R[1]
RNAV (GPS) Rwy 9L[3]
RNAV (GPS) Rwy 17R[3]
RNAV (GPS) Rwy 27R[3]
RNAV (GPS) Rwy 35L[3]
VOR Rwy 17R[3]
VOR Rwy 35L[3]
[1]NA when control tower closed.
[2]ILS, Category E, 700-2½. LOC, Category E, 800-2½.
[3]NA when local weather not available.

GRAND MARAIS, MN

GRAND MARAIS/
COOK COUNTY ..... **RNAV (GPS) Rwy 27**
NA when local weather not available.

GRAND RAPIDS, MN

GRAND RAPIDS/ITASCA CO-
GORDON NEWSTROM .... **RNAV (GPS) Rwy 16**
RNAV (GPS) Rwy 34
VOR Rwy 34
NA when local weather not available.

GRANITE FALLS, MN

GRANITE FALLS MUNI/LENZEN-ROE
MEMORIAL FIELD ..... **RNAV (GPS) Rwy 33**
NA when local weather not available.

NAME ALTERNATE MINIMUMS

HIBBING, MN

RANGE RGNL ..... **ILS OR LOC/DME Rwy 13**[1]
VOR Rwy 13[2]

[1]ILS,Categories A,B,C,D, 800-2.
[2]Categories A,B, 900-2; Category C, 900-2½; Category D, 900-2¾; ILS, 700-2.

HURON, SD

HURON RGNL ..... **ILS or LOC Rwy 12**[12]
LOC/DME BC Rwy 30[23]
RNAV (GPS) Rwy 12[23]
RNAV (GPS) Rwy 30[23]
VOR Rwy 12[23]

[1]ILS, Category D, 700-2¼. LOC, Category D, 800-2¼.
[2]NA when local weather not available.
[3]Category D, 800-2¼.

INTERNATIONAL FALLS, MN

FALLS INTL ..... **COPTER ILS or LOC Rwy 31**[1]
ILS or LOC/DME Rwy 13,700-2[2]
ILS or LOC Rwy 31[2]
RNAV (GPS) Rwy 13[2]
RNAV (GPS) Rwy 31[2]
VOR Rwy 13[23]
VOR/DME Rwy 31[2]

[1]LOC, NA; ILS, NA when local weather not available.
[2]NA when local weather not available.
[3]Category D, 800-2¼.

JACKSON, MN

JACKSON MUNI ..... **RNAV (GPS) Rwy 13**
RNAV (GPS) Rwy 31
NDB Rwy 13

NA when local weather not available.

JAMESTOWN, ND

JAMESTOWN RGNL ..... **RNAV (GPS) Rwy 4**
RNAV (GPS) Rwy 13
RNAV (GPS) Rwy 22
RNAV (GPS) Rwy 31
VOR Rwy 31

NA when local weather not available.

MANKATO, MN

MANKATO RGNL ..... **RNAV (GPS) Rwy 4**
RNAV (GPS) Rwy 15
RNAV (GPS) Rwy 22
RNAV (GPS) Rwy 33
VOR Rwy 15
VOR Rwy 33

NA when local weather not available.

MAPLE LAKE, MN

MAPLE LAKE MUNI ..... **VOR-A**

NA when local weather not available.

NAME ALTERNATE MINIMUMS

MARSHALL, MN

SOUTHWEST MINNESOTA RGNL MARSHALL/ RYAN FLD ..... **RNAV (GPS) Rwy 12**
VOR Rwy 12

NA when local weather not available.

MINNEAPOLIS, MN

ANOKA COUNTY-BLAINE ARPT (JANES FIELD) ..... **ILS or LOC/DME Rwy 27**
RNAV (GPS) Rwy 9
RNAV (GPS) Rwy 18
RNAV (GPS) Rwy 27
VOR Rwy 9
VOR/DME Rwy 27

NA when local weather not available.

CRYSTAL ..... **RNAV (GPS) Rwy 14L**

NA when local weather not available.

FLYING CLOUD ..... **COPTER ILS or LOC Rwy 10R**[1]
ILS or LOC Rwy 10R[1]
RNAV (GPS) Rwy 10L
RNAV (GPS) Rwy 28R
VOR Rwy 10R
VOR/DME Rwy 36

NA when local weather not available.
[1]NA when control tower closed.

MINNEAPOLIS-ST. PAUL INTL/ WOLD CHAMBERLAIN ..... **ILS Rwy 4**[1]
ILS or LOC Rwy 12L[2]
ILS or LOC Rwy 12R[1]
ILS or LOC Rwy 30L[1]
ILS or LOC Rwy 30R[2]
ILS or LOC Rwy 35[3]
LOC Rwy 4[4]
LOC Rwy 22[4]
RNAV (GPS) Rwy 4[4]
RNAV (GPS) Rwy 12L[5]
RNAV (GPS) Rwy 12R[4]
RNAV (GPS) Rwy 22[4]
RNAV (GPS) Rwy 30L[4]
RNAV (GPS) Rwy 30R[4]
RNAV (GPS) Z Rwy 35[6]

[1]ILS, Category D, 700-2; Category E, 900-3. LOC, Category E, 900-3.
[2]ILS, Categories A, B, C, 700-2; Category D, 700-2¼; Category E, 900-3. LOC, Category D, 800-2¼; Category E, 900-3.
[3]ILS, Categories A, B, 800-2; Category C, 800-2¼; Category D, 800-2½; Category E, 900-3. LOC, Category C, 800-2¼; Category D, 800-2½; Category E, 900-3.
[4]Category E, 900-3.
[5]Category D, 800-2¼; Cateogry E, 900-3.
[6]Category D, 800-2¼.

NAME ALTERNATE MINIMUMS

MINOT, ND

MINOT INTL ..... **ILS or LOC Rwy 31[1,2]**
LOC/DME BC Rwy 13[1]
RNAV (GPS) Rwy 8
RNAV (GPS) Rwy 13
RNAV (GPS) Rwy 26
RNAV (GPS) Rwy 31
VOR Rwy 8[3]
VOR Rwy 26[4]

NA when local weather not available.
[1]NA when tower closed.
[2]Category E, 1100-3.
[3]Categories A, B, 1100-2; Categories C, D, 1100-3.
[4]Categories A,B, 900-2; Category C,900-2½; Category D,900-2¾.

MITCHELL, SD

MITCHELL MUNI ..... **RNAV (GPS) Rwy 12**
RNAV (GPS) Rwy 30
VOR Rwy 12
VOR Rwy 30[1]

NA when local weather not available.
[1]Categories A,B, 1000-2; Categories C,D, 1000-3.

MOBRIDGE, SD

MOBRIDGE MUNI ..... **RNAV (GPS) Rwy 12[1]**
RNAV (GPS) Rwy 30[2]

NA when local weather not available
[1]Category D, 900-2¾.
[2]Category C, 800-2¼; Category D, 900-2¾.

MORRIS, MN

MORRIS MUNI-CHARLIE
SCHMIDT FLD ..... **RNAV (GPS) Rwy 14**
RNAV (GPS) Rwy 32

NA when local weather not available.

PINE RIDGE, SD

PINE RIDGE ..... **RNAV (GPS) Rwy 30**

NA when local weather not available.
Categories A,B, 900-2.

PIPESTONE, MN

PIPESTONE MUNI ..... **NDB Rwy 36**
RNAV (GPS) Rwy 18
RNAV (GPS) Rwy 36

NA when local weather not available.

NAME ALTERNATE MINIMUMS

PRESTON, MN

FILLMORE COUNTY ..... **RNAV (GPS) Rwy 29**

NA when local weather not available.

RAPID CITY, SD

RAPID CITY RGNL ..... **ILS or LOC Rwy 32[1]**
RNAV (GPS) Rwy 14[2]
RNAV (GPS) Rwy 32[2]
VOR or TACAN Rwy 14[2]
VOR or TACAN Rwy 32[2]

NA when local weather not available.
[1]ILS, Category D, 700-2; Category E, 800-2¾.
LOC, Category E, 800-2¾.
[2]Category E, 800-2¼.

REDWOOD FALLS, MN

REDWOOD FALLS
MUNI ..... **RNAV (GPS) Rwy 30**
VOR-A

Category D, 800-2¼.
NA when local weather not available.

ROCHESTER, MN

ROCHESTER INTL ..... **ILS or LOC Rwy 13**
ILS or LOC Rwy 31
COPTER ILS or LOC Rwy 31

NA when control tower closed.

ROSEAU, MN

ROSEAU MUNI/
RUDY BILLBERG FIELD ... **RNAV (GPS) Rwy 16**
RNAV (GPS) Rwy 34

NA when local weather not available.

ST. CLOUD, MN

ST. CLOUD RGNL .. **ILS or LOC/DME Rwy 13[1,2,3]**
RNAV (GPS) Rwy 5[1]
RNAV (GPS) Rwy 13[1]
RNAV (GPS) Rwy 23[1]
RNAV (GPS) Rwy 31[1]
VOR/DME Rwy 13[1,2]
VOR Rwy 31[1,2]

[1]NA when local weather not available.
[2]NA when control tower closed.
[3]ILS,Categories, A, B, C, D, 700-2.

NAME ALTERNATE MINIMUMS

ST. PAUL, MN

ST. PAUL DOWNTOWN HOLMAN FIELD ..... **ILS or LOC Rwy 14[12]**
ILS or LOC Rwy 32[13]
RNAV (GPS) Rwy 14[3]
RNAV (GPS) Rwy 32[4]

[1]NA when local weather not available.
[2]ILS,LOC, Categories A, B, 900-2; Category C, 900-2½; Category D, 900-2¾.
[3]Categories A, B, 900-2; Category C, 900-2½; Category D, 900-2¾.
[4]Categories A,B,C, 900-2½; Category D, 900-2¾.

SIOUX FALLS, SD

JOE FOSS FIELD ..... **ILS Rwy 3[12]**
ILS Rwy 21[1]
RADAR-1[3]
VOR or TACAN Rwy 15[4]
VOR/DME or TACAN Rwy 33[3]

[1]NA when control tower closed.
[2]LOC, NA.
[3]Category E, 800-2¾.
[4]Category E, 900-3.

SOUTH ST. PAUL, MN

SOUTH ST. PAUL MUNI-RICHARD E FLEMING FIELD ..... **RNAV (GPS) Rwy 34**
Category D, 800-2¼.
NA when local weather not available.

THIEF RIVER FALLS, MN

THIEF RIVER FALLS RGNL ..... **RNAV (GPS) Rwy 13**
RNAV (GPS) Rwy 31
VOR Rwy 13
NA when local weather not available.

VERMILLION, SD

HAROLD DAVIDSON FIELD ..... **RNAV (GPS) Rwy 30**
NA when local weather not available.

WARROAD, MN

WARROAD INTL MEMORIAL ..... **RNAV (GPS) Rwy 13**
RNAV (GPS) Rwy 31
NA when local weather not available.

NAME ALTERNATE MINIMUMS

WASECA, MN

WASECA MUNI ..... **RNAV (GPS) Rwy 15**
NA when local weather not available.

WATERTOWN, SD

WATERTOWN RGNL ..... **LOC/DME BC Rwy 17**
NDB Rwy 35
RNAV (GPS) Rwy 12
RNAV (GPS) Rwy 17
RNAV (GPS) Rwy 30
RNAV (GPS) Rwy 35
VOR or TACAN Rwy 17
NA when local weather not available.

WILLISTON, ND

SLOULIN FIELD INTL..... **VOR or GPS Rwy 11**
Category D, 800-2¼.

WILLMAR, MN

WILLMAR MUNI-JOHN L RICE FIELD ..... **RNAV (GPS) Rwy 13**
RNAV (GPS) Rwy 31
VOR Rwy 13
VOR Rwy 31[1]
NA when local weather not available.
[1]Category D, 800-2¼.

WINNER, SD

WINNER RGNL ..... **RNAV (GPS) Rwy 13**
RNAV (GPS) Rwy 31
VOR-A
NA when local weather not available.

WORTHINGTON, MN

WORTHINGTON MUNI ..... **VOR or GPS Rwy 11**
Category D, 800-2¼.

YANKTON, SD

CHAN GURNEY MUNI ... **RNAV (GPS) Rwy 13[1]**
VOR Rwy 13[1]
VOR Rwy 31[2]
[1]NA when local weather not available.
[2]Category D, 800-2¼.

BISMARCK, ND

Amdt. 3A, DEC 13, 2002 (FAA)

ELEV **1661**

BISMARCK MUNI

RADAR - 126.3 298.9

	RWY	GS/TCH/RPI	CAT	DA/ MDA-VIS	HAT/ HATh/ HAA	CEIL-VIS	CAT	DA/ MDA-VIS	HAT/ HATh/ HAA	CEIL-VIS
ASR	13		AB	**2100**-1	445	(500-1)	C	**2100**-1¼	445	(500-1¼)
			D	**2100**-1½	445	(500-1½)				
	31		AB	**2100**/24	455	(500-½)	C	**2100**/40	455	(500-¾)
			D	**2100**/50	455	(500-1)				
	21		AB	**2120**-1	459	(500-1)	C	**2120**-1¼	459	(500-1¼)
			D	**2120**-1½	459	(500-1½)				
	3		AB	**2120**-1	459	(500-1)	C	**2120**-1¼	459	(500-1¼)
			D	**2120**-1½	459	(500-1½)				
CIRCLING			A	**2180**-1	519	(600-1)	B	**2220**-1	539	(600-1)
			C	**2220**-1½	559	(600-1½)	D	**2240**-2	579	(600-2)

Inoperative table does not apply to MALS Rwy 13.

DULUTH, MN

Amdt. 20, OCT 7, 1999 (FAA)

ELEV **1428**

DULUTH INTL

RADAR - 125.45 255.9

	RWY	GS/TCH/RPI	CAT	DA/ MDA-VIS	HAT/ HATh/ HAA	CEIL-VIS	CAT	DA/ MDA-VIS	HAT/ HATh/ HAA	CEIL-VIS
ASR	3		ABC	**1820**-1	400	(400-1)	D	**1820**-1¼	400	(400-1¼)
			E	**1820**-1½	400	(400-1½)				
	27		AB	**1860**/24	439	(500-½)	C	**1860**/40	439	(500-¾)
			DE	**1860**/50	439	(500-1)				
	21		AB	**1860**-1	440	(500-1)	C	**1860**-1¼	440	(500-1¼)
			DE	**1860**-1½	440	(500-1½)				
	9		AB	**1880**/24	452	(500-½)	C	**1880**/40	452	(500-¾)
			DE	**1880**/50	452	(500-1)				
CIRCLING			AB	**1920**-1	492	(500-1)	C	**1920**-1½	492	(500-1½)
			DE	**1980**-2	552	(600-2)				

Category E circling NA southeast of Rwys 3 and 27.

ELLSWORTH AFB (KRCA) (Rapid City), SD (Amdt 1, 08045 USAF) ELEV **3276**

RADAR - (E) 119.5 259.1[1]

	RWY	GS/TCH/RPI	CAT	DH/ MDA-VIS	HAT/ HATh/ HAA	CEIL-VIS
ASR	13[2]		AB	**3820**/40	544	(600-¾)
			C	**3820**/50	544	(600-1)
			D	**3820**/60	544	(600-1¼)
			E	**3820**-1½	544	(600-1½)
	31[2]		AB	**3820**/40	628	(600-¾)
			C	**3820**/60	628	(600-1¼)
			D	**3820**-1½	628	(600-1½)
			E	**3820**-1¾	628	(600-1¾)
CIR	All Rwy[3]		A	**3860**-1¼	584	(600-1¼)
			B	**3880**-1¼	604	(700-1¼)
			C	**3880**-1¾	604	(700-1¾)
			D	**3880**-2	604	(700-2)
			E	**4040**-2¾	764	(800-2¾)

[1]Opr 1300-0730Z++ Mon-Thu, 1300-0500Z++ Fri. 1400-0500Z++ Sat, Sun and hol. [2]When ALS inop, increase CAT AB RVR to 60 and vis to 1¼, increase CAT CDE vis ½ mile. [3]CAT E circling restricted to 28th BW aircraft only; 28th BW aircraft will remain within class D airspace.

MANDAN, ND Amdt. 4, NOV 09, 1995 (FAA) ELEV **1942**

MANDAN MUNI

RADAR - 126.3 298.9 ⚠ NA

	RWY	GS/TCH/RPI	CAT	DA/ MDA-VIS	HAT/ HATh/ HAA	CEIL-VIS	CAT	DA/ MDA-VIS	HAT/ HAT/ HAA	CEIL-VIS
ASR	31		AB	**2360**-1	418	(500-1)	CD	**2360**-1¼	418	(500-1¼)
	13		AB	**2460**-1	520	(600-1)	C	**2460**-1½	520	(600-1½)
			D	**2460**-1¾	520	(600-1¾)				
CIRCLING			A	**2460**-1	518	(600-1)	B	**2500**-1	558	(600-1)
			C	**2500**-1½	558	(600-1½)	D	**2500**-2	558	(600-2)

Use Bismarck altimeter setting.
When Bismarck control tower closed, ASR NA.

ROCHESTER, MN
Amdt. 8, JAN 15, 2009 (FAA) ELEV **1317**

ROCHESTER INTL
RADAR - 119.8 251.125 V

	RWY	GS/TCH/RPI	CAT	DA/ MDA-VIS	HAT/ HATh/ HAA	CEIL-VIS	CAT	DA/ MDA-VIS	HAT/ HATh/ HAA	CEIL-VIS
ASR	2		ABC	**1680**-1	363	(400-1)	D	**1680**-1¼	363	(400-1¼)
	13		ABC	**1640**/24	360	(400-½)	D	**1640**/50	360	(400-1)
	20		ABC	**1660**-1	356	(400-1)	D	**1660**-1¼	356	(400-1¼)
	31		ABC	**1660**/24	356	(400-½)	D	**1660**/50	356	(400-1)
CIRCLING			A	**1720**-1	403	(500-1)	B	**1780**-1	463	(500-1)
			C	**1780**-1½	463	(500-1½)	D	**1880**-2	563	(600-2)

When control tower closed, procedure NA. For inoperative MALSR, increase S-13 and S-31 Cat D visibility to RVR 6000. Visibility reduction by helicopters NA Rwy 2-20.

SIOUX FALLS, SD
Amdt. 10A, OCT 3,2003 (FAA) ELEV **1429**

JOE FOSS FIELD
RADAR - 125.8 353.6 V A

	RWY	GS/TCH/RPI	CAT	DA/ MDA-VIS	HAT/ HATh/ HAA	CEIL-VIS	CAT	DA/ MDA-VIS	HAT/ HATh/ HAA	CEIL-VIS
ASR	3		AB	**1940**/24	517	(600-½)	C	**1940**/50	517	(600-1)
			DE	**1940**/60	517	(600-1¼)				
	33		AB	**1920**-1	497	(500-1)	C	**1920**-1¼	497	(500-1¼)
			D	**1920**-1½	497	(500-1½)	E	**1920**-1¾	497	(500-1¾)
	21		AB	**1960**/24	531	(600-½)	C	**1960**/50	531	(600-1)
			D	**1960**/60	531	(600-1¼)	E	**1960**-1½	531	(600-1½)
	15		AB	**1960**-1	534	(600-1)	C	**1960**-1½	534	(600-1½)
			D	**1960**-1¾	534	(600-1¾)	E	**1960**-2	534	(600-2)
CIRCLING			AB	**1960**-1	531	(600-1)	C	**1960**-1½	531	(600-1½)
			D	**2040**-2	611	(700-2)	E	**2300**-3	871	(900-3)

When control tower closed, procedure not authorized.
Category E S-3 visibility increased 1¾ mile for inoperative MALSR.
Category E S-21 visibility increased to 2 miles for inoperative MALSR.

INSTRUMENT APPROACH PROCEDURE CHARTS

IFR TAKE-OFF MINIMUMS AND (OBSTACLE) DEPARTURE PROCEDURES

Civil Airports and Selected Military Airports

ALL USERS: Airports that have Departure Procedures (DPs) designed specifically to assist pilots in avoiding obstacles during the climb to the minimum enroute altitude , and/or airports that have civil IFR take-off minimums other than standard, are listed below. Take-off Minimums and Departure Procedures apply to all runways unless otherwise specified. Altitudes, unless otherwise indicated, are minimum altitudes in MSL.

DPs specifically designed for obstacle avoidance are referred to as Obstacle Departure Procedures (ODPs) and are described below in text, or published separately as a graphic procedure. If the (Obstacle) DP is published as a graphic procedure, its name will be listed below, and it can be found in either this volume (civil), or a separate Departure Procedure volume (military), as appropriate. Users will recognize graphic obstacle DPs by the term "(OBSTACLE)" included in the procedure title; e.g., TETON TWO (OBSTACLE). If not assigned a SID or radar vector by ATC, an ODP may be flown without ATC clearance to ensure obstacle clearance.

Graphic DPs designed by ATC to standardize traffic flows, ensure aircraft separation and enhance capacity are referred to as "Standard Instrument Departures (SIDs)". SIDs also provide obstacle clearance and are published under the appropriate airport section. ATC clearance must be received prior to flying a SID.

CIVIL USERS NOTE: Title 14 Code of Federal Regulations Part 91 prescribes standard take-off rules and establishes take-off minimums for certain operators as follows: (1) Aircraft having two engines or less - one statute mile. (2) Aircraft having more than two engines - one-half statute mile. These standard minima apply in the absence of any different minima listed below.

MILITARY USERS NOTE: Civil (nonstandard) take-off minima are published below. For military take-off minima, refer to appropriate service directives.

NAME TAKE-OFF MINIMUMS

ABERDEEN, SD

ABERDEEN RGNL (ABR)
ORIG 09239 (FAA)
NOTE: **Rwy 17,** trees 1138' from DER, 432' right of centerline, 41' AGL/1336' MSL. **Rwy 31,** multiple trees beginning 1391' from DER, 326' left of centerline, up to 65' AGL/1360' MSL.

AITKIN, MN

AITKIN MUNI-STEVE KURTZ FIELD (AIT)
AMDT 2 96172 (FAA)
TAKE-OFF MINIMUMS: **Rwys 8, 26,** 300-1. **Rwy 16,** 300-1 or std. with a min climb of 400' per NM to 1500.
DEPARTURE PROCEDURE: **Rwys 16, 26,** climb runway heading to 1700 before turning.

ALBERT LEA, MN

ALBERT LEA MUNI (AEL)
ORIG 85241 (FAA)
DEPARTURE PROCEDURE: **Rwys 16, 22,** climb runway heading to 1800 before turning on course.

ALEXANDRIA, MN

CHANDLER FIELD (AXN)
DEPARTURE PROCEDURE: **Rwys 4, 13, 22,** when weather is below 200-1, climb runway heading to 1800 before turning.

NAME TAKE-OFF MINIMUMS

APPLETON, MN

APPLETON MUNI (AQP)
ORIG 94146 (FAA)
DEPARTURE PROCEDURE: **Rwy 4,** climb to 2000 before turning right. **Rwy 31,** climb to 2000 before turning left. **Rwy 13,** climb to 2400 before turning right. **Rwy 22,** climb to 2400 before turning left.

AUSTIN, MN

AUSTIN MUNI (AUM)
ORIG 08045 (FAA)
NOTE: **Rwy 17,** Multiple trees beginning 809' from departure end of runway, 663' right of centerline, up to 61' AGL/1285' MSL. **Rwy 35,** Tree 1380' from departure end of runway, 484' right of centerline, 100' AGL/1314' MSL.

BAUDETTE, MN

BAUDETTE INTL (BDE)
ORIG 01193 (FAA)
DEPARTURE PROCEDURE: **Rwy 12,** climb runway heading to 1700 before turning northbound.

BELLE FOURCHE, SD

BELLE FOURCHE MUNI (EFC)
AMDT 2 09015 (FAA)

TAKE-OFF MINIMUMS: **Rwys 18,36,** NA. **Rwy 14,** std. w/ min. climb of 240' per NM to 9000 or 1400-3 for climb in visual conditions. **Rwy 32,** std. w/ min. climb of 413' per NM to 3900.

DEPARTURE PROCEDURE: **Rwy 14,** for climb in visual conditions: cross Belle Fourche Muni airport at or above 4400 MSL before proceeding on course. **Rwy 32,** climb heading 321° to 3900 before proceeding southbound.

NOTE: **Rwy 14,** trees 651' from departure end of runway, 547' left of centerline, up to 20' AGL/3299' MSL. **Rwy 32,** trees 857' from departure end of runway, 150' left of centerline, up to 20' AGL/3199' MSL. Trees 3880' from departure end of runway, 966' right of centerline, up to 20' AGL/3289' MSL.

BEMIDJI, MN

BEMIDJI RGNL (BJI)
AMDT 3 08213 (FAA)

NOTE: **Rwy 7,** vegetation beginning 859' from departure end of runway, 544' right of centerline, up to 62' AGL/1442' MSL. Vegetation beginning 1404' from departure end of runway, 683' left of centerline, up to 44' AGL/1424' MSL. **Rwy 13,** vehicle on road, 541' from departure end of runway, 525' right of centerline, 15' AGL/1398' MSL. **Rwy 25,** poles beginning 1337' from departure end of runway, 205' right of ceterline up to 61' AGL/1445' MSL. Trees beginning 1414' from departure end of runway, 254' left of centerline, up to 57' AGL/1441' MSL. Tree 1406' from departure end of runway, 233' right of centerline, 53' AGL/1437' MSL.

BENSON, MN

BENSON MUNI (BBB)
AMDT 1 09127 (FAA)

NOTE: **Rwy 14,** numerous trees beginning 838' from DER, 246' right of centerline, up to 33' AGL/1087' MSL. Numerous trees beginning 1232' from DER, 64' left of centerline, up to 69' AGL/1108' MSL. Sign 206' from DER, 198' left of centerline, 19' AGL/1044' MSL. Tower 4884' from DER, 274' right of centerline, 126' AGL/1161' MSL. **Rwy 32,** Tree 2380' from DER, 646' left of centerline, 68' AGL/1107' MSL. Multiple fences beginning 13' from DER, 361' left of centerline, up to 8' AGL/1043' MSL.

BIGFORK, MN

BIGFORK MUNI (FOZ)
ORIG 97198 (FAA)

TAKE-OFF MINIMUMS: **Rwy 15,** 400-1 or std. with a min. climb of 250' per NM to 1800.

BISMARCK, ND

BISMARCK MUNI (BIS)
AMDT 7 01137 (FAA)

DEPARTURE PROCEDURE: **Rwys 3, 31,** climb runway heading to 2500 before proceeding on course.
Rwys 13, 21, climb runway heading to 3800 before proceeding south.

BOTTINEAU, ND

BOTTINEAU MUNI (D09)
ORIG 98113 (FAA)

TAKE-OFF MINIMUMS: **Rwy 13,** 800-1 or std. with a min. climb of 280' per NM to 2500. **Rwy 31,** 900-2 or std. with a min. climb of 360' per NM to 2900. **Rwys 3, 21,** NA.

BRAINERD, MN

BRAINERD LAKES RGNL (BRD)
AMDT 5 07074 (FAA)

NOTE: **Rwy 12,** multiple trees beginning 165' from departure end of runway, 417' left of centerline, up to 78' AGL/1279' MSL. Multiple trees and vehicle on road beginning 304' from departure end of runway, 206' right of centerline, up to 66' AGL/1277' MSL. **Rwy 16,** multiple trees beginning 1830' from departure end of runway, 749' left of centerline, up to 74' AGL/1314' MSL. **Rwy 23,** multiple trees beginning 1495' from departure end of runway, 179' left of centerline, up to 48' AGL/1285' MSL. Tree 2437' from departure end of runway, 716' right of centerline, 50' AGL/1279' MSL. **Rwy 30,** multiple trees beginning 243' from departure end of runway, 131'left of centerline, up to 61' AGL/1287' MSL. Multiple trees 48' from departure end of runway, 328' right of centerline, up to 59' AGL/1329' MSL.

BRITTON, SD

BRITTON MUNI (BTN)
AMDT 2 96060 (FAA)

TAKE-OFF MINIMUMS: **Rwy 13,** 300-1 or std. with a min. climb of 450' per NM to 1600. **Rwy 19,** 300-1.

DEPARTURE PROCEDURE: **Rwy 19,** climb runway heading to 2000 before turning.

BROOKINGS, SD

BROOKINGS RGNL (BKX)
ORIG 09015 (FAA)

NOTE: **Rwy 12,** pole and trees beginning 1041' from departure end of runway, 207' left of centerline, up to 65' AGL/1705' MSL. Building 1277' from departure end of runway, 825' right of centerline, 38' AGL/1618' MSL. **Rwy 17,** vehicle on road 799' from departure end of runway, on centerline, up to 15' AGL/1687' MSL. Trees beginning 906' from departure end of runway, 464' left of centerline, up to 100' AGL/1749' MSL. **Rwy 30,** railroad beginning 547' from departure end of runway, 502' right of centerline, 23' AGL/1626' MSL. Tree 132' from departure end of runway, 433' left of centerline, 20' AGL/1615' MSL. **Rwy 35,** trees 2892' from departure end of runway, 944' right of centerline, up to 100' AGL/1709' MSL.

CANBY, MN

MYERS FIELD (CNB)
ORIG 07186 (FAA)

NOTE: **Rwy 12,** truck on road 183' from departure end of runway, 220' right of centerline, 15' AGL/1204' MSL.

CASSELTON, ND

CASSELTON ROBERT MILLER RGNL (5N8)
ORIG 07354 (FAA)

TAKE-OFF MINIMUMS: **Rwy 31,** 400-2½ or std. w/ a min. climb of 212' per NM to 1400 or alternatively, with standard takeoff minimums and a normal 200'/NM climb gradient, takeoff must occur no later than 1700' prior to departure end of runway.

NOTE: **Rwy 13,** railroad 30' from departure end of runway, 505' right of centerline, 23' AGL/945' MSL. Vehicle on road 449' from departure end of runway, 300' left of centerline, 15' AGL/949' MSL. **Rwy 31,** trees 2251' from departure end of runway, 456' left of centerline, up to 100' AGL/1052' MSL.

CAVALIER, ND

CAVALIER MUNI (2C8)
ORIG 03191 (FAA)

TAKE-OFF MINIMUMS: **Rwy 16,** 300-1 or std. with a min. climb of 430' per NM to 1200.

NOTE: **Rwy 16,** grain elevator 3731' from departure end of runway, 284' left of centerline, 168' AGL/1060' MSL.

CLOQUET, MN

CLOQUET CARLTON COUNTY (COQ)
AMDT 1 80248 (FAA)

TAKE-OFF MINIMUMS: **Rwy 7,** 300-1 or std. with a min. climb of 400' per NM to 1400.

CROOKSTON, MN

CROOKSTON MUNI-KIRKWOOD FIELD (CKN)
AMDT 2 07298 (FAA)

TAKE-OFF MINIMUMS: **Rwys 6, 17, 24, 35,** NA-turf runways.

NOTE: **Rwy 13,** tree 1998' from departure end of runway, 587' left of centerline, 94' AGL/970' MSL. Pole 1127' from departure end of runway, 662' left of centerline, 46' AGL/926' MSL.

DETROIT LAKES, MN

DETROIT LAKES-WETHING FIELD (DTL)
ORIG 05132 (FAA)

TAKE-OFF MINIMUMS: **Rwys 17, 35,** NA.

NOTE: **Rwy 31,** highway 243' from departure end of runway, 267' right of centerline, 15' AGL/1404' MSL. Railroad 534' from departure end of runway, 298' right of centerline, 23' AGL/1411' MSL.

DEVILS LAKE, ND

DEVILS LAKE RGNL (DVL)
AMDT 1A 09351 (FAA)

TAKE-OFF MINIMUMS: **Rwy 31,** 300-1 or std. with a min. climb of 350' per NM to 1600.

NOTE: **Rwy 3,** tree 1528' from DER, 319' left of centerline, 100' AGL/1490' MSL. Tree 1520' from DER, 136' right of centerline, 100' AGL/1489' MSL. **Rwy 13,** bush 266' from DER, 523' left of centerline, 17' AGL/1451' MSL. Road, light pole and antenna on building beginning 95' from DER, 414' right of centerline, up to 17' AGL/1484' MSL. **Rwy 21,** roads beginning 335' from DER, 2' right of centerline, 15' AGL/1447' MSL, multiple poles, trees and towers beginning 552' from DER 355' left of centerline, up to 123' AGL/1548' MSL. **Rwy 31,** road 470' from DER, 424' right of centerline, 15' AGL/1472' MSL. Multiple poles and trees beginning 1180' from DER, 354' left of centerline, up to 49' AGL/1545' MSL.

DICKINSON, ND

DICKINSON-THEODORE ROOSEVELT RGNL (DIK)
AMDT 1 05244 (FAA)

DEPARTURE PROCEDURE: **Rwy 25,** climb via heading 250° to 3100 before turning left.

NOTE: **Rwy 7,** road 887' from departure end of runway, on rwy centerline, 15' AGL/2631' MSL.

DODGE CENTER, MN

DODGE CENTER (TOB)
ORIG 09015 (FAA)

TAKE-OFF MINIMUMS: **Rwy 22,** NA-Environmental.

NOTE: **Rwy 16,** trees 3945' from departure end of runway, 1542' left of centerline, 100' AGL/1409' MSL.

DULUTH, MN

DULUTH INTL (DLH)
ORIG 06327 (FAA)

NOTE: **Rwy 3,** multiple trees beginning 21' from departure end of runway, 226' right of centerline, up to 68' AGL/1477' MSL. Multiple trees beginning 246' from departure end of runway, 26' left of centerline, up to 64' AGL/1473' MSL. **Rwy 9,** electrical equipment 207' from departure end of runway, 408' left of centerline, 6' AGL/1425' MSL. **Rwy 21,** tower 3762' from departure end of runway, 410' left of centerline, 92' AGL/1522' MSL. **Rwy 27,** tree 2426' from departure end of runway, 1127' right of centerline, 53' AGL/1522' MSL. Bush and multiple trees beginning 347' from departure end of runway, 484' left of centerline, up to 44' AGL/1533' MSL.

SKY HARBOR (DYT)
ORIG 83174 (FAA)

TAKE-OFF MINIMUMS: **Rwy 14,** 300-1. **Rwy 32,** 1500-2 or std. with a min. climb of 360' per NM to 2300.

DEPARTURE PROCEDURE: **Rwy 14,** northwest departures (260° CW 030°) climb to 2300 via heading 260° or 030° before proceeding on course.

EAGLE BUTTE, SD

CHEYENNE EAGLE BUTTE (84D)
ORIG 96228 (FAA)

TAKE-OFF MINIMUMS: **Rwys 13,31,** 300-1.

ELY, MN
ELY MUNI (ELO)
AMDT 2 97086 (FAA)
TAKE-OFF MINIMUMS: **Rwy 12,** 300-1 or std. with a min. climb of 200' per NM to 1600.
DEPARTURE PROCEDURE: **Rwy 30,** northbound departures climb runway heading to 2000 before turning.

EVELETH, MN
EVELETH-VIRGINIA MUNI (EVM)
AMDT 2 94118 (FAA)
TAKE-OFF MINIMUMS: **Rwy 32,** 800-2 or std. with a min. climb to 330' per NM to 2300.
DEPARTURE PROCEDURE: **Rwy 27**, northwest departures (270°-050°) climb runway heading to 2200 before turning.

FAIRMONT, MN
FAIRMONT MUNI (FRM)
AMDT 3 09127 (FAA)
NOTE: **Rwy 2,** trees beginning 2466' from DER, 1105' right of centerline, up to 100' AGL/1269' MSL. **Rwy 13,** tree 2340' from DER, 1039' left of centerline, 100' AGL/1269' MSL. **Rwy 20,** trees beginning 1640' from DER, 914' right of centerline, up to 100' AGL/1289' MSL. Trees beginning 913' from DER, 449' left of centerline, up to 100' AGL/1299' MSL. **Rwy 31,** trees beginning 954' from DER, 161' left of centerline, up to 100' AGL/1299' MSL. Trees and road beginning 791' from DER, 339' right of centerline, up to 57' AGL/1226' MSL.

FARGO, ND
HECTOR INTL (FAR)
AMDT 4 04330 (FAA)
TAKE-OFF MINIMUMS: **Rwys13,31,** NA.
NOTE: **Rwy 9,** multiple light poles 1124' from departure end of runway, 305' left of centerline, 20' AGL/927' MSL.

FERGUS FALLS, MN
FERGUS FALLS MUNI-EINAR MICKELSON FIELD (FFM)
ORIG 09239 (FAA)
NOTE: **Rwy 13,** trees beginning 2612' from DER, 128' right of centerline, up to 100' AGL/1269' MSL. Trees beginning 2514' from DER, 42' left of centerline, up to 100' AGL/1259' MSL. **Rwy 17,** trees beginning 1100' from DER 663' right of centerline, up to 100' AGL/1269' MSL. Road 222' from DER, 469' right of centerline, 15' AGL/1173' MSL. **Rwy 35,** trees beginning 2156' from DER, 176' right of centerline, up to 100' AGL/1289' MSL.

FOSSTON, MN
FOSSTON MUNI (FSE)
AMDT 1 87351 (FAA)
TAKE-OFF MINIMUMS: **Rwys 14, 32,** IFR takeoff not authorized.
DEPARTURE PROCEDURE: **Rwy 16,** climb runway heading to 2000 before turning.

GETTYSBURG, SD
GETTYSBURG MUNI (0D8)
AMDT 1 07018 (FAA)
NOTE: **Rwy 4,** multiple trees beginning 1011' from departure end of runway, 420' left of centerline, up to 60' AGL/2119' MSL. **Rwy 13,** multiple trees beginning 1897' from departure end of runway, 975' left of centerline, 60' AGL/2119' MSL. **Rwy 22,** multiple trees beginning 679' from departure end of runway, 117' left of centerline, up to 60' AGL/2109' MSL.

GLENCOE, MN
GLENCOE MUNI (GYL)
ORIG 09071 (FAA)
NOTE: **Rwy 13,** trees beginning349' from DER, 257' right of centerline, up to 100' AGL/1099' MSL. Trees beginning 1211' from DER, 314' left of centerline, up to 100' AGL/1109' MSL. Terrain beginning 53' from DER, 166' left of centerline, up to 998' MSL. Terrain beginning 286' from DER, 435' right of centerline, up to 1001' MSL. **Rwy 31,** trees beginning 501' from DER, 530' right of centerline, up to 100' AGL/1099' MSL. Tree 2577' from DER, 129' left of centerline, 100' AGL/1109' MSL.

GLENWOOD, MN
GLENWOOD MUNI (GHW)
AMDT 2 98337 (FAA)
TAKE-OFF MINIMUMS: **Rwy 5,** 1200-2 or std. with a min. climb of 220' per NM to 2900.

GRAFTON, ND
HUTSON FIELD (GAF)
ORIG 97086 (FAA)
TAKE-OFF MINIMUMS: **Rwy 35,** 400-2 or std. with a min. climb of 420' per NM to 1300.

GRAND FORKS, ND
GRAND FORKS INTL (GFK)
AMDT 2 09071 (FAA)
NOTE: **Rwy 9L,** tree 127' from DER, 451' left of centerline, 12' AGL/853' MSL. **Rwy 27R,** bush 38' from DER, 474' right of centerline, 5' AGL/844' MSL. **Rwy 35L,** obstruction light on DME 645' from DER, 198' left of centerline, 21' AGL/860' MSL. **Rwy 35R,** tree 1259' from DER, 521' right of centerline, 41' AGL/880' MSL. Tree 1655' from DER, 271' left of centerline, 45' AGL/884' MSL.

GRANT MARAIS, MN
GRAND MARAIS/COOK COUNTY (CKC)
ORIG 09015 (FAA)
NOTE: **Rwy 9,** trees beginning 58' from departure end of runway, 168' right of centerline up to 54' AGL/1833' MSL. Bushes 112' from departure end of runway, 142' left of centerline, 11' AGL/1805' MSL. Tree 464' from departure end of runway, 75' left of centerline, 14' AGL/1813' MSL. **Rwy 27,** trees beginning 85' from departure end of runway, 187' left of centerline, up to 59' AGL/1858' MSL. Trees beginning 282' from departure end of runway, 115' right of centerline, up to 42' AGL/1861' MSL.

GRAND RAPIDS, MN

GRAND RAPIDS/ITASCA COUNTY-GORDON NEWSTROM FIELD (GPZ)
AMDT 4 09127 (FAA)

TAKE-OFF MINIMUMS: **Rwys 5,10,23,28,** NA-Environmental.

NOTE: **Rwy 16,** tree 1655' from DER, 899' left of centerline, 51' AGL/1410' MSL. Tree 3236' from DER, 1130' right of centerline, 82' AGL/1441' MSL. **Rwy 34,** tree 3416' from DER, 1253' right of centerline, 100' AGL/1399' MSL.

GREGORY, SD

GREGORY MUNI, FLYNN FIELD (9D1)
ORIG 97142 (FAA)

TAKE-OFF MINIMUMS: **Rwy 31,** 400-2 or std. with a min. climb of 210' per NM to 2600.

GWINNER, ND

GWINNER-ROGER MELROE FIELD (GWR)
ORIG 09183 (FAA)

TAKE-OFF MINIMUMS: **Rwys 6, 24,** NA-Environment. **Rwy 34,** Std. w/ min. climb of 216' per NM to 2000, or 900-2½ for climb in visual conditions.

DEPARTURE PROCEDURE: **Rwy 34,** for climb in visual conditions, cross Gwinner-Roger Melroe Field at or above 2000, before proceeding on course.

NOTE: **Rwy 16,** terrain beginning 15' from DER, 73' right of centerline, 1257' MSL. **Rwy 34,** road and vehicle 436' from DER, on centerline, 15' AGL/1286' MSL.

HAWLEY, MN

HAWLEY MUNI (04Y)
ORIG 07074 (FAA)

NOTE: **Rwy 34,** road 15' from departure end of runway, 421' left of centerline, 15' AGL/1224' MSL.

HETTINGER, ND

HETTINGER MUNI (HEI)
AMDT 1 98225 (FAA)

TAKE-OFF MINIMUMS: **Rwy 12,** 300-1 or std. with a min. climb rate of 220' per NM to 3000. **Rwys 17, 35** NA.

HIBBING, MN

RANGE RGNL (HIB)
AMDT 6 04218 (FAA)

DEPARTURE PROCEDURE: **Rwy 22,** climb via heading 227° to 2200 before turning right. **Rwy 31,** climb via heading 310° to 2200 before turning left.

NOTE: **Rwy 4,** antenna on pole, 361' from departure end of runway, 409' right of centerline, 1377' MSL. **Rwy 13,** obstacle light on pole, 1184' from departure end of runway, 636' left of centerline. Numerous trees beginning 1291' from departure end of runway, 745' left of centerline up to 1419' MSL. Trees 1497' from departure end of runway, 563' right of centerline, 1388' MSL. **Rwy 22,** multiple trees beginning 368' from departure end of runway, 170' right of centerline, up to 1416' MSL. Multiple trees beginning 413' from departure end of runway, 117' left of centerline, up to 1400' MSL. **Rwy 31,** light standard, 865' from departure end of runway, 595' right of centerline, 1381' MSL.

HILLSBORO, ND

HILLSBORO MUNI (3H4)
ORIG 97198 (FAA)

DEPARTURE PROCEDURE: **Rwys 16, 34,** climb runway heading to 2000 prior to turning westbound.

HINCKLEY, MN

FIELD OF DREAMS (04W)
ORIG 08045 (FAA)

NOTE: **Rwy 6,** Tree 82' from departure end of runway, 480' right of centerline, 100' AGL/1114' MSL. Tree 143' from departure end of runway, 161' left of centerline, 100' AGL/1114' MSL. **Rwy 24,** Tree 48' from departure end of runway, 165' left of centerline, 100' AGL/1124' MSL.

HOT SPRINGS, SD

HOT SPRINGS MUNI (HSR)
ORIG 97142 (FAA)

TAKE-OFF MINIMUMS: **Rwy 1,** 300-1 or std. with a min. climb of 360' per NM to 5000. **Rwy 19,** 300-2 or std. with a min. climb of 250' per NM to 5000.

DEPARTURE PROCEDURE: **Rwys 1,19,** climb runway heading to 5000 before proceeding westbound.

HURON, SD

HURON RGNL (HON)
AMDT 5 09239 (FAA)

NOTE: **Rwy 12,** trees and pole beginning 918' from DER, 525' left of centerline, up to 62' AGL/1341' MSL. Trees beginning 291' from DER, 234' right of centerline, up to 100' AGL/1389' MSL. **Rwy 17,** trees beginning 236' from DER, 307' left of centerline, up to 67' AGL/1346' MSL. Trees beginning 264' from DER, 262' right of centerline, 73' AGL/1352' MSL. **Rwy 30,** trees beginning 3428' from DER, 1378' left of centerline, up to 100' AGL/1394' MSL. **Rwy 35,** trees beginning 60' from DER, 104' left of centerline, up to 49' AGL/1328' MSL. Trees beginning 251' from DER, 97' right of centerline, 52' AGL/1331' MSL.

INTERNATIONAL FALLS, MN

FALLS INTL (INL)
AMDT 3 08101 (FAA)

NOTE: **Rwy 4,** Tree 392' from departure end of runway 311' left of centerline, 51' AGL/1231' MSL. **Rwy 13,** multiple trees beginning 1999' from departure end of runway, 773' left of centerline, up to 63' AGL/1233' MSL. Pole 1091, from departure end of runway, 703' right of centerline, 37' AGL/1207' MSL. Road 1005' from departure end of runway, 766' left of centerline, 15' AGL/1195' MSL. **Rwy 22,** Multiple trees beginning 433' from departure end of runway 273' left of centerline, up to 33' AGL/1213' MSL. Trees 1144' from departure end of runway 136' right of centerline, 28' AGL/1208' MSL. **Rwy 31,** Trees 968' from departue end of runway, 752' left of centerline, 56' AGL/1236' MSL.

JACKSON, MN

JACKSON MUNI (MJQ)
ORIG 08045 (FAA)

TAKE-OFF MINIMUMS: **Rwys 4,22,** NA-TURF.

DEPARTURE PROCEDURE: **Rwy 13,** Climb heading 134° to 1900 before turning right.

NOTES: **Rwy 13,** Trees beginning 1474' from departure end of runway, 556' left of centerline, up to 80' AGL/1539' MSL. Vehicle on road 258' from departure end of runway, 559' from centerline, 15' AGL/1459' MSL. **Rwy 31,** Vehicle on road 465' from departure end of runway, 618' left of centerline, 15' AGL/1446' MSL. Trees beginning 1616' from departure end of runway, 580' right of centerline, up to 80' AGL/1519' MSL. Trees beginning 1110' from departure end of runway, 429' left of centerline, up to 80' AGL/1509' MSL.

JAMESTOWN, ND

JAMESTOWN RGNL (JMS)
AMDT 1 07242 (FAA)

NOTE: **Rwy 22,** antenna and tank beginning 2960' from departure end of runway, 1007' left of centerline, up to 150' AGL/1631' MSL. **Rwy 31,** multiple trees beginning 2129' from departure end of runway 47' right of centerline, up to 60' AGL/1560' MSL.

KINDRED, ND

HAMRY FIELD (K74)
ORIG 10042 (FAA)

NOTE: **Rwy 29,** tree 991' from DER, 367' left of centerline, 38' AGL/982' MSL. Tree 1073' from DER, 221' left of centerline, 38' AGL/982' MSL.

LITCHFIELD, MN

LITCHFIELD MUNI (LJF)

DEPARTURE PROCEDURE: **Rwys 13, 31,** climb to 1800 on runway heading before proceeding on course.

LITTLE FALLS, MN

LITTLE FALLS/MORRISON COUNTY
CHARLES A. LINDBERGH FIELD (LXL)
AMDT 3 96172 (FAA)

TAKE-OFF MINIMUMS: **Rwy 13,** 300-1 or std. with a min. climb of 250' per NM to 1500. **Rwy 36,** 600-1½ or std. with a min. climb of 345' per NM to 1700.

DEPARTURE PROCEDURE: **Rwy 31**, climb to 1700 before turning.

LONG PRAIRIE, MN

TODD FIELD (14Y)
ORIG 08157 (FAA)

NOTE: **Rwy 16,** tree 273' from departure end of runway, 310' right of centerline, 100' AGL/1436' MSL. **Rwy 34,** tree 70' from departure end of runway, 100' right of centerline, 100' AGL/1439' MSL. Tree 122' from departure end of runway, 105' left of centerline, 100' AGL/1436' MSL. Tree 18' from departure end of runway, 106' right of centerline, 100' AGL/1433' MSL.

MANKATO, MN

MANKATO RGNL (MKT)
ORIG 09267 (FAA)

NOTE: **Rwy 4,** trees beginning 447' from DER, 408' right of centerline, up to 100' AGL/1078' MSL. Trees beginning 1996' from DER, 17' left of centerline, up to 100' AGL/1084' MSL. **Rwy 15,** trees beginning 1552' from DER, 719' left of centerline, up to 100' AGL/1088' MSL. **Rwy 22,** trees beginning 2370' from DER, 989' right of centerline, up to 100' AGL/1069' MSL. **Rwy 33,** trees beginning 2085' from DER, 780' right of centerline, up to 100' AGL/1077' MSL. Rising terrain 9' from DER, 65' right of centerline, up to 1029' MSL. Terrain beginning 82' from DER, 60' left of centerline, up to 1029' MSL.

MARSHALL, MN

SOUTHWEST MINNESOTA RGNL MARSHALL/
RYAN FIELD (MML)
AMDT 2 08101 (FAA)

TAKE-OFF MINIMUMS: **Rwy 20,** Std. w/ min. climb of 270' per NM to 2000, or 1000-3 for climb in visual conditions.

DEPARTURE PROCEDURE: **Rwy 20,** for climb in visual conditions, cross Marshall Airport at or above 2000 MSL before proceeding on course.

NOTE: **Rwy 12,** Pole 706' from departure end of runway, 671' right of centerline, 60' AGL/1212' MSL, pole 1580' from departure end of runway, 732' left of centerline, 70' AGL/1225' MSL, antenna 1496' from departure end of runway, 620' right of centerline, 64' AGL/1219' MSL, pole 1185' from departure end of runway, 540' right of centerline, 55' AGL/1210' MSL, tree 3564' from departure end of runway, 400' right of centerline, 110' AGL/1269' MSL, tree 2135' from departure end of runway, 113' left of centerline, 77' AGL/1232' MSL. **Rwy 30,** Vehicle on road 1' from departure end of runway, 435' left of centerline, 24' AGL/1200' MSL.

MILBANK, SD

MILBANK MUNI (1D1)
ORIG 08101 (FAA)

TAKE-OFF MINIMUMS: **Rwy 25,** Std. w/ a min. climb of 207' per NM to 1900, or 900-2½ for climb in visual conditions.

DEPARTURE PROCEDURE: **Rwy 25,** For climb in visual conditions cross Milbank Muni airport at or abov e 1900 before proceeding on course.

NOTE: **Rwy 7,** trees beginning 1207' from departure end of runway, 387' left of centerline, up to 100' AGL/ 1219' MSL. Vehicle on road 829' from departure end of runway, 373' right of centerline, 15' AGL/ 1134' MSL. Building 322' from departure end of runway, 582' right of centerline, 25' AGL/ 1134' MSL. **Rwy 13,** trees beginning 1448' from departure end of runway, 394' right of centerline, up to 100' AGL/ 1219' MSL. Vehicle on road 218' from departure end of runway, 490' left of centerline, 15' AGL/ 1134' MSL. Building 78' from departure end of runway, 397' left of centerline, 25' AGL/ 1134' MSL. **Rwy 25,** tree 3584' from departure end of runway, 477' left of centerline, 100' AGL/ 1249' MSL. **Rwy 31,** tree 2992' from departure end of runway, 715' left of centerline, 100' AGL/ 1239' MSL.

MILLER, SD

MILLER MUNI (MKA)
ORIG 08269 (FAA)

NOTE: **Rwy 15,** vehicle on road 769' from departure end of runway, 642' right of centerline, 15' AGL/1599' MSL. Snow removal equipment 206' from departure end of runway, 475' right of centerline, 21' AGL/1594' MSL. Tree 3903' from departure end of runway, 998' left of centerline, 100' AGL/1684' MSL. **Rwy 33,** vehicle on road 450' from departure end of runway, 560' left of centerline, 15' AGL/1584' MSL. Tree 762' from departure end of runway, 628' left of centerline, 100' AGL/1669' MSL.

MINNEAPOLIS, MN

ANOKA COUNTY-BLAINE AIRPORT
(JANES FIELD) (ANE)
AMDT 5 10042 (FAA)

TAKE-OFF MINIMUMS; **Rwy 9,** 300-1½ or std. w/ min. climb of 204' per NM to 1200, or alternatively, with standard takeoff minimums and a normal 200'/NM climb gradient, takeoff must occur no later than 1200' prior to DER.

DEPARTURE PROCEDURE: **Rwy 9,** climb heading 089° to 2200 before turning right. **Rwy 18,** climb heading 179° to 2600 before turning left. **Rwy 27,** climb heading 269° to 1700 before proceeding southeast bound. **Rwy 36,** climb heading 359° to 1700 before proceeding southeast bound.

NOTE: **Rwy 9,** tank and multiple trees beginning 822' from DER, 619' right of centerline, up to 170' AGL/1082' MSL. Trees 2248' from DER, 966' left of centerline, 100' AGL/1009' MSL. **Rwy 18,** aircraft on taxiway 36' from DER, 481' right of centerline, up to 21' AGL/928' MSL. Multiple trees beginning 406' from DER, 287' left of centerline, up to 49' AGL/959' MSL. **Rwy 27,** multiple trees beginning 7' from DER, 235' right of centerline, up to 83' AGL/983' MSL. Multiple trees beginning 558' from DER, 406' left of centerline, up to 57' AGL/957'MSL. **Rwy 36,** multiple trees beginning 86' from DER, 10' right of centerline, up to 87' AGL/987' MSL. Multiple trees beginning 1282' from DER, 53' left of centerline, up to 70' AGL/970' MSL.

CRYSTAL (MIC)
AMDT 2 81050 (FAA)

TAKE-OFF MINIMUMS: **Rwys 14L,14R,32L,32R,** 300-1. **Rwys 24L,24R,** 300-1 or std. with a min. climb of 215' per NM to 1000. **Rwys 6L, 6R,** 300-1 or std. with a min. climb of 285' per NM to 1000.

DEPARTURE PROCEDURE: **Rwys 6L,6R,14L,14R,** eastbound departures (050°-130°) climb runway heading to 2800 before turning.

MINNEAPOLIS, MN (CON'T)

FLYING CLOUD (FCM)
AMDT 4 08157 (FAA)

NOTE: **Rwy 10L,** multiple antenna's on hangar's beginning 270' from departure end of runway, 330' left of centerline, up to 26' AGL/932' MSL. Tree 682' from departure end of runway, 668' right of centerline, 26' AGL/932' MSL. **Rwy 10R,** multiple obstruction light on poles beginning 287' from departure end of runway, 345' right of centerline, up to 36' AGL/939' MSL. Hangar 150' from departure end of runway, 422' right of centerline, 21' AGL/920' MSL. Antenna on building, 536' from departure end of runway, 263' right of centerline, 14' AGL/913' MSL. **Rwy 18,** multiple trees beginning 338' from departure end of runway, 166' left of centerline, up to 62' AGL/961' MSL. Obstruction light on fence 176' from departure end of runway, 127' left of centerline, 10' AGL/910' MSL. Vehicle and road 198' from departure end of runway, 196' left of centerline, 15' AGL/918' MSL. Floodlight 148' from departure end of runway, 374' right of centerline, 38' AGL/938' MSL. Obstruction light on hangar 282' from departure end of runway, 317' right of centerline, 37' AGL/937' MSL. **Rwy 28R,** Hangar 259' from departure end of runway, 355' right of centerline, 18' AGL/931' MSL. **Rwy 36,** wind vane 923' from departure end of runway, 404' left of centerline, 61' AGL/960' MSL. Vent on building 943' from departure end of runway, 295' left of centerline, 44' AGL/943' MSL. Pole 714' from departure end of runway, 351' left of centerline, 33' AGL/932' MSL. Multiple trees beginning 504' from departure end of runway, 324' right of centerline, up to 67' AGL/966' MSL.

MINNEAPOLIS, MN (CON'T)

MINNEAPOLIS-ST. PAUL INTL
(WOLD CHAMBERLAIN) (MSP)
AMDT 11 07130 (FAA)

TAKEOFF MINIMUMS: **Rwy 35,** std. with a min. climb of 219' per NM to 2100.

DEPARTURE PROCEDURE: **Rwy 4,** climb heading 043° to 2100 before turning left. **Rwy 30L,** climb heading 299° to 2100 before turning right. **Rwy 30R,** climb heading 299° to 2100 before turning right.

Rwy 35, climb via heading 348° to 2100 before turning left.

NOTE: **Rwy 4,** multiple trees beginning 800' from departure endof runway, 264' left of centerline, up to 75' AGL/921' MSL. Rod on building 2528' from departure end of runway, 1175' left of centerline, 78' AGL/922' MSL. Fence 803' from departure end of runway, 585' left of centerline, 15' AGL/860' MSL. Antenna on OL building 456' from departure end of runway, 319' left of centerline, 13' AGL/850' MSL. Light poles 1932' from departure end of runway, 718' left of centerline, 45' AGL/885' MSL. Stack 4535' from departure end of runway, 481' left of centerline, 139' AGL/949' MSL. **Rwy 12R,** multiple trees beginning 1477' from departure end of runway, 407' left of centerline, up to 86' AGL/851' MSL. Multiple trees beginning 1426' from departure end of runway, 124' right of centerline, up to 111' AGL/847' MSL. Light pole 1408' from departure end of runway, 746' right of centerline, 85' AGL/843' MSL. Radar RFLTR 983' from departure end of runway, 32' left of centerline, 15' AGL/829' MSL. Pipe on building, 826' from departure end of runway, 576' left of centerline, 10' AGL/825' MSL. Obstruction light on localizer 766' from departure end of runway, on centerline, 7' AGL/821' MSL. **Rwy 17,** antenna 1272' from departure end of runway, 562' right of centerline, 57' AGL/891' MSL. Pole 409' from departure end of runway, 530' right of centerline, 29' AGL/866' MSL. WDI on building 2619' from departure end of runway, 881' left of centerline, 97' AGL/918' MSL. Building 2619' from departure end of runway, 859' left of centerline, 84' AGL/905' MSL. Light 1176' from departure end of runway, 291' right of centerline, 11' AGL/875' MSL. Tree 2619' from departure end of runway, on centerline, 79' AGL/900' MSL. **Rwy 22,** tree 2906' from departure end of runway, 833' right of centerline, 94' AGL/934' MSL. Hopper 1717' from departure end of runway, 456' left of centerline, 48' AGL/888' MSL. **Rwy 30L,** multiple trees beginning 1113' from departure end of runway, 701' left of centerline, up to 80' AGL/919' MSL. Tree 1230' from departure end of runway, 633' right of centerline, 30' AGL/877' MSL. Ground 28' from departure end of runway, 490' right of centerline, 0' AGL/844' MSL.

Rwy 30R, building 1056' from departure end of runway, 198' left of centerline, 13' AGL/853' MSL. Multiple trees beginning 3010' from departure end of runway, 334' left of centerline, up to 94' AGL/940' MSL. Light pole 1849' from departure end of runway, 698' right of centerline, 17' AGL/871' MSL. Fence 1327' from departure end of runway, 667' right of centerline, 8' AGL/857' MSL. Tree 3703' from departure end of runway, 350' right of centerline, 67' AGL/914' MSL. Rod on pole 3143' from departure end of runway, 47' right of centerline, 38' AGL/898' MSL. **Rwy 35,** tree 175' from departure end of runway, 398' right of centerline, 73' AGL/883' MSL. Multiple trees beginning 1989' from departure end of runway, 351' left of centerline, up to 65' AGL/902' MSL. Multiple buildings beginning 5.45 NM from departure end of runway, 1787' left of centerline, up to 811' AGL/1743' MSL.

MINOT, ND

MINOT INTL (MOT)
AMDT 3 06103 (FAA)

TAKE-OFF MINIMUMS: **Rwy 26,** 300-1½ or std. with a min. climb of 219' per NM to 2000.

DEPARTURE PROCEDURE: **Rwy 13,** climb via heading 128° to 2200 before turning right. **Rwy 26,** climb via heading 260° to 2300 before turning left.

NOTE: **Rwy 8,** tree 1801' from departure end of runway, 292' left of centerline, 56' AGL/1714' MSL. Tree 1459' from departure end of runway, 528' left of centerline, 47' AGL/1705' MSL. **Rwy 26,** tree 1750' from departure end of runway, 618' right of centerline, 71' AGL/1786' MSL. Tree 1829' from departure end of runway, 376' left of centerline, 65' AGL/1780' MSL. Light pole 1110' from departure end of runway, 610' left of centerline, 44' AGL/1759' MSL. Tank 1.1 NM from departure end of runway, 1810' right of centerline, 184' AGL/1899' MSL. Tree 1782' from departure end of runway, 273' right of centerline, 49' AGL/1764' MSL. Light pole 1294' from departure end of runway, 452' right of centerline, 29' AGL/1751' MSL. Tree 2019' from departure end of runway, 393' right of centerline, 54' AGL/1769' MSL. Building 1431' from departure end of runway, 301' right of centerline, 38' AGL/1753' MSL. Light pole 1418' from departure end of runway, 23' right of centerline, 36' AGL/1751' MSL.

MITCHELL, SD

MITCHELL MUNI (MHE)
AMDT 1 86240 (FAA)

DEPARTURE PROCEDURE: **Rwys 12, 17,** climb to 1800 before turning.

MOBRIDGE, SD

MOBRIDGE MUNI(MBG)
ORIG 88154 (FAA)

TAKE-OFF MINIMUMS: **RWY 35,** 300-1.

DEPARTURE PROCEDURE: **Rwys 12, 17, 30, 35,** climb runway heading to 2500 before turning on course.

MONTEVIDEO, MN

MONTEVIDEO-CHIPPEWA COUNTY (MVE)

TAKE-OFF MINIMUMS: **Rwy 21,** 400-1½.

DEPARTURE PROCEDURE: **Rwy 14,** climb runway heading to 1500 before turning.

MOOSE LAKE, MN

MOOSE LAKE CARLTON COUNTY (MZH)
ORIG 94006 (FAA)

TAKE-OFF MINIMUMS: **Rwys 4, 22,** 300-1.

MORRIS, MN

MORRIS MUNI-CHARLIE SCHMIDT FLD (MOX)
ORIG 08045 (FAA)

TAKE-OFF MINIMUMS: **Rwys 4, 22,** NA-Environmental.

NOTE: **Rwy 32,** Trees 2888' from departure end of runway, 1125' left of centerline, 100' AGL/1209' MSL.

OAKES, ND

OAKES MUNI (2D5)
ORIG 97142 (FAA)

TAKE-OFF MINIMUMS: **Rwy 30,** 300-1 or std. with a min. climb of 260' per NM to 1700.

OLIVIA, MN
OLIVIA RGNL (OVL)
AMDT 1 86044 (FAA)
TAKE-OFF MINIMUMS: **Rwy 11,** 300-1.

ORR, MN
ORR RGNL (ORB)
AMDT 1 80136 (FAA)
TAKE-OFF MINIMUMS: **Rwy 13,** 500-2 or std. with a min. climb of 260' per NM to 1900.

ORTONVILLE, MN
ORTONVILLE MUNI-MARTINSON FIELD (VVV)
ORIG 81274 (FAA)
TAKE-OFF MINIMUMS: **Rwy 16,** 300-1 or std. with a min. climb of 210' per NM to 1300.

OWATONNA, MN
OWATONNA DEGNER RGNL (OWA)
AMDT 2 97030 (FAA)
DEPARTURE PROCEDURE: **Rwy 12,** climb runway heading to 1500 before turning on course.

PEMBINA, ND
PEMBINA MUNI (PMB)
ORIG 85325 (FAA)
DEPARTURE PROCEDURE: **Rwy 33,** climb runway heading 3200 before turning left.

PERHAM, MN
PERHAM MUNI (16D)
ORIG 98113 (FAA)
TAKE-OFF MINIMUMS: **Rwy 12,** 500-2 or std. with a min. climb of 210' per NM to 2000. **Rwy 30,** 400-1 or std. with a min. climb of 270' per NM to 1800.
DEPARTURE PROCEDURE: **Rwy 12,** climb runway heading to 2000 before proceeding on course. **Rwy 30,** climb runway heading to 1800 before proceeding on course.

PIERRE, SD
PIERRE RGNL (PIR)
AMDT 2 85115 (FAA)
TAKE-OFF MINIMUMS: **Rwy 25,** 300-1.

PINE RIDGE, SD
PINE RIDGE (IEN)
ORIG 97226 (FAA)
TAKE-OFF MINIMUMS: **Rwy 12,** 300-1 or std. with a min. climb of 350' per NM to 3600. **Rwy 24,** 300-1 or std. with a min. climb of 220' per NM to 3500. **Rwy 30,** 300-1 or std. with a min. climb of 300' per NM to 3600.

PIPESTONE, MN
PIPESTONE MUNI (PQN)
ORIG 08045 (FAA)
TAKE-OFF MINIMUMS: **Rwys 9,27,** NA-Environmental.
NOTE: **Rwy 18,** Trees beginning 3811' from departure end of runway, 854' right of centerline, up to 100' AGL/1859' MSL.

PRESTON, MN
FILLMORE COUNTY (FKA)
ORIG 98113 (FAA)
TAKE-OFF MINIMUMS: **Rwys 11,29,** 300-1.

PRINCETON, MN
PRINCETON MUNI (PNM)
AMDT 1 05132 (FAA)
NOTE: **Rwy 15,** trees 982' from departure end of runway, 335' right of centerline, 50' AGL/1029' MSL. Trees 1449' from departure end of runway, 387' left of centerline, 50' AGL/1029' MSL. **Rwy 33,** barn 1159' from departure end of runway, 780' right of centerline, 50' AGL/1139' MSL, multiple trees, terrain, and road beginning 36' from departure end of runway, 84' right of centerline, up to 50' AGL/1045' MSL.

RAPID CITY, SD
RAPID CITY RGNL (RAP)
AMDT 6 07130 (FAA)
DEPARTURE PROCEDURE: **Rwy 5,** climb on heading between 255° clockwise to 210° from departure end of runway, or min. climb of 240' per NM to 8800 for all other courses. **Rwy 14,** climb on heading between 325° clockwise to 210° from departure end of runway, or min. climb of 245' per NM to 8900 for all other courses. **Rwy 23,** climb on heading between 210° counter clockwise to 055° from departure end of runway, or min. climb of 268' per NM to 8900 for all other courses. **Rwy 32,** climb on heading between 255° clockwise to 140° from departure end of runway, or min. climb of 242' per NM to 8800 for all other courses.
NOTE: **Rwy 5,** fence 133' from departure end of runway, 249' left of centerline, 10' AGL/3215' MSL. **Rwy 23,** hangar 201' from departure end of runway, 299' left of centerline, 24' AGL/3193' MSL. Fence 334' from departure end of runway, 256' right of centerline, 10' AGL/3184' MSL. **Rwy 32,** obstruction light 662' from departure end of runway, 243' left of centerline, 54' AGL/3213' MSL. Fence 1002' from departure end of runway, 751' right of centerline, 10' AGL/3233' MSL. Tower 1.9 NM from departure end of runway, 3503' right of centerline, 152' AGL/3520' MSL.

RAY S. MILLER AAF (KRYM)
CAMP RIPLEY, MN . . . . . AMDT 2, 09155
TAKE-OFF OBSTACLES: **Rwy 13**, Terrain 1270' MSL, 73' from DER, 8' left and right of centerline. Vehicle 15' AGL/1180' MSL, 765' from DER, 638' left of centerline. **Rwy 31,** Terrain 1273' MSL, 54' from DER, 9' left and right of centerline. Trees 64' AGL/1282' MSL, 798' from DER, 325' left and right of centerline.

RED WING, MN
RED WING RGNL (RGK)
AMDT 1 01137 (FAA)
DEPARTURE PROCEDURE: **Rwy 9,** 700-4 or std. with a min. climb of 270' per NM to 1700.

REDWOOD FALLS, MN

REDWOOD FALLS MUNI (RWF)
ORIG 09071 (FAA)

TAKE-OFF MINIMUMS: **Rwys 5, 23,** NA-Environmental.

NOTE: **Rwy 12,** numerous buildings beginning 388' from DER, 376' right of centerline, up to 13' AGL/1052' MSL. Numerous fences beginning 6' from DER, 329' right of centerline, up to 13' AGL/1052' MSL. Tree 62' from DER, 444' left of centerline, 11' AGL/1040' MSL. **Rwy 30,** multiple trees beginning 865' from DER, 401' right of centerline, up to 100' AGL/1119' MSL. Vehicle on road 128' from DER, 306' right of centerline, 15' AGL/1027' MSL.

ROCHESTER, MN

ROCHESTER INTL (RST)
ORIG 09015 (FAA)

NOTE: **Rwy 2,** road 73' from departure end of runway, 385' right of centerline, 10' AGL/1292' MSL. Tree 4377' from departure end of runway, 1132' right of centerline, 100' AGL/1399' MSL. Road 268' from departure end of runway, 366' right of centerline, 10' AGL/1290' MSL. **Rwy 13,** tree 1498' from departure end of runway, 840' right of centerline, 44' AGL/1348' MSL. **Rwy 20,** pole 259' from departure end of runway, 407' right of centerilne, 23' AGL/1338' MSL. Roads beginning 1' from departure end of runway, 231' right of centerline, up to 10' AGL/1327' MSL. **Rwy 31,** tree 4760' from departure end of runway, 1103' left of centerline, 100' AGL/1389' MSL.

ROSEAU, MN

ROSEAU MUNI-RUDY BILLBERG FIELD (ROX)
ORIG 07242 (FAA)

NOTE: **Rwy 16,** building 258' from departure end of runway, 505' right of centerline, 24' AGL/1078' MSL. Tree 1582' from departure end of runway, 337' left of centerline, 47' AGL/1101' MSL. **Rwy 34,** truck on road 41' from departure end of runway, 511' left of centerline, 15' AGL/1069' MSL.

RUSHFORD, MN

RUSHFORD MUNI (55Y)
AMDT 1 96228 (FAA)

TAKE-OFF MINIMUMS: **Rwy 34,** 300-1 or std. with a min. climb of 300' per NM to 1500.

DEPARTURE PROCEDURE: **Rwy 16,** climb runway heading to 1700 before turning eastbound.

ST. CLOUD, MN

ST. CLOUD RGNL (STC)
ORIG 09239 (FAA)

TAKE-OFF MINIMUMS: **Rwy 5,** 300-1¼ or std. w/ min. climb of 201' per NM to 1300 or alternatively, with standard take-off minimums and a normal 200'/NM climb gradient, take-off must occur no later than 1100' prior to DER.

NOTE: **Rwy 5,** tower 6201' from DER, 1416' left of centerline, 149' AGL/1179' MSL. Multiple trees beginning 17' from DER, 373' right of centerline, up to 59' AGL/1081' MSL. Multiple trees beginning 1752' from DER, 56' left of centerline, up to 80' AGL/1102' MSL. **Rwy 13,** tree 1654' from DER, 884' right of centerline, 61' AGL/1078' MSL. Tree 1265' from DER, 794' left of centerline, 42' AGL/1059' MSL. **Rwy 23,** trees 2109' from DER, 29' right of centerline, up to 61' AGL/1082' MSL. Trees 1725' from DER, 93' left of centerline, up to 55' AGL/1076' MSL. Fence 74' from DER, 216' left of centerline, 2' AGL, 1023' MSL. **Rwy 31,** terrain beginning 29' from DER, 50' right of centerline, up to 1083' MSL. Terrain beginning 107' from DER, 7' left of centerline, up to 1060' MSL.

ST. JAMES, MN

ST. JAMES MUNI (JYG)
ORIG 94342 (FAA)

DEPARTURE PROCEDURE: **Rwy 15,** climb to 1900 before turning eastbound.

ST. PAUL MN

LAKE ELMO (21D)
ORIG 80318 (FAA)

TAKE-OFF MINIMUMS: **Rwy 22,** 300-1 or std. with a min. climb of 225' per NM to 1100.

ST. PAUL DOWNTOWN HOLMAN FIELD (STP)
AMDT 7 08157 (FAA)

TAKE-OFF MINIMUMS: **Rwy 9,** std. w/ min. climb of 346' per NM to 1500. **Rwy 13,** std. w/ min. climb of 266' per NM to 1500. **Rwy 14,** std. w/ min. climb of 216' per NM to 1500. **Rwy 27,** std. w/ min. climb of 436' per NM to 1500. **Rwy 31**, NA - obstacles. **Rwy 32,** std. w/ min. climb of 340' per NM to 3000.

DEPARTURE PROCEDURE: **Rwy 9,** climb heading 088° to 1500 before proceeding on course. **Rwy 13,** climb heading 125° to 1500 before proceeding on course.

Rwy 14, climb heading 143° to 1500 before proceeding on course. **Rwy 27,** climb heading 268° to 1700 before proceeding on course. **Rwy 32,** climb heading 323° to 1300 before proceeding on course.

NOTE: **Rwy 9,** multiple trees beginning 1265' from departure end of runway, 167' right of centerline, up to 75' AGL/1055' MSL. Multiple trees beginning 1.1 NM from departure end of runway, 124' left of centerline, up to 100' AGL/1099' MSL. Obstruction light tank 1571' from departure end of runway, 771' right of centerline, 50' AGL/811' MSL. Mobile crane 1163' from departure end of runway, 123' left of centerline, 50' AGL/ 758' MSL.

ST. PAUL DOWNTOWN HOLMAN FIELD (STP) (CON'T)

Rwy 13, Obstruction light stack 2695' from departure end of runway, 842' right of centerline, 50' AGL/820' MSL. Tree 1563' from departure end of runway, 25' right of centerline, 61' AGL/748' MSL. Multiple trees beginning 1004' from departure end of runway, 607' left of centerline, 50' AGL/767' MSL. Tower 1,725' from departure end of runway, 930' left of centerline, 47' AGL/753' MSL. Vent on building 3029' from departure end of runway, 629' right of centerline, 10' AGL/783' MSL. Multiple bushes beginning 194' from departure end of runway 88' left of centerline, 7' AGL/712' MSL. Stack 1,879' from departure end of runway, 25' left of centerline, 51' AGL/751' MSL. **Rwy 14,** multiple trees beginning 805' from departure end of runway, 2' right of centerline, up to 112' AGL/811' MSL. Multiple trees beginning 1205' from departure end of runway, 64' left of centerline, up to 80' AGL/770' MSL. Poles 2810' from departure end of runway 715' right of centerline, 91' AGL/778' MSL. **Rwy 27,** multiple trees beginning 803' from departure end of runway, 122' left of centerline, up to 100' AGL/994' MSL. Tree 783' from departure end of runway, 105' right of centerline, 25' AGL/725' MSL. Obstruction light antenna 996' from departure end of runway, 304' right of centerline, 67' AGL/ 767' MSL. Light pole 1328' from departure end of runway, 222' left of centerline, 50' AGL/747' MSL. Building 2049' from departure end of runway, 837' right of centerline, 57' AGL/761' MSL. Flagpole 2333' from departure end of runway, 199' left of centerline, 78' AGL/778' MSL. Stack 1.8 NM from departure end of runway, 635' left of centerline, 569' AGL/1279' MSL.

Rwy 32, road and vehicle 211' from departure end of runway, 482' left of centerline, 17' AGL/717' MSL. Railroad beginning 369' from departure end of runway, 329' left of centerline, up to 23' AGL/727' MSL. Pipe on DME 383' from departure end of runway, 269' right of centerline, 17' AGL/722' MSL. Tree 1152' from departure end of runway, 209' left of centerline, 44' AGL/744' MSL. Tree 1685' from departure end of runway, 277' right of centerline, 75' AGL/770' MSL. Sign 5668' from departure end of runway, 1924' left of centerline, 86' AGL/874' MSL. Trees 5614' from departure end of runway, 1796' right of centerline, 100' AGL/939' MSL. Building 5779' from departure end of runway, 1733' right of centerline, 72' AGL/910' MSL. Pole 1.0 NM from departure end of runway, 1835' right of centerline, 157' AGL/973' MSL. Building 1.1 NM from departure end of runway, 2170' left of centerline, 122' AGL/886' MSL. Multiple buildings beginning 1.1 NM from departure end of runway, 378' left of centerline, up to 142' AGL/918' MSL

SILVER BAY, MN

SILVER BAY MUNI (BFW)
ORIG 93035 (FAA)

TAKE-OFF MINIMUMS: **Rwys 7, 25,** 300-1.

SIOUX FALLS, SD

JOE FOSS FIELD (FSD)
AMDT 7 07242 (FAA)

TAKE-OFF MINIMUMS: **Rwy 15,** 200-1 or std. w/ min. climb of 404' per NM to 1700. **Rwy 33,** 200-1¼ or std. w/ min. climb of 343' per NM to1700.

DEPARTURE PROCEDURE: **Rwy 3,** climb heading 030° to 2300 before turning eastbound. **Rwy 9,** climb heading 098° to 2000, then left turn direct FSD VORTAC. **Rwy 15,** climb heading 150° to 2000, then right turn direct FSD VORTAC. **Rwy 21,** climb heading 210° to 2200 before turning eastbound. **Rwy 27,** climb heading 278° to 2100 before turning eastbound. **Rwy 33,** climb heading 330° to 2200 before turning eastbound.

NOTE: **Rwy 9,** antenna 2238' from departure end of runway, 919' right of centerline, 87' AGL/1506' MSL. Pole 1256' from departure end of runway, 23' left of centerline, 43' AGL/1464' MSL. Windsock 331' from departure end of runway, 582' right of centerline, 14' AGL/1433' MSL. **Rwy 15,** antenna 3056' from departure end of runway, 983' left of centerline 117' AGL/1576' MSL. Multiple trees beginning 1211' from departure end of runway, 471' left of centerline, up to 38' AGL/1477' MSL. Tower 3102' from departure end of runway, 972' left of centerline, 61' AGL/1520' MSL. Trees and pole beginning 1746' from departure end of runway, 316' right of centerline, up to 87' AGL/1516' MSL. **Rwy 21,** multiple trees beginning 428' from departure end of runway, 522' right of centerline, up to 75' AGL/1497' MSL. **Rwy 27,** multiple trees beginning 2528' from departure end of runway, 1027' left of centerline, up to 100' AGL/1509' MSL. **Rwy 33,** 2 lighted radio towers 3639' from departure end of runway, 894' left of centerline, 88' AGL/1585' MSL, multiple trees beginning 5370' from departure end of runway, 891' left of centerline, up to 175' AGL/1603' MSL, pole 5724' from departure end of runway, 1701' left of centerline, 45' AGL/1594' MSL.

SPEARFISH, SD

BLACK HILLS-CLYDE ICE FIELD (SPF)

TAKE-OFF MINIMUMS: **Rwys 3, 8, 21, 35,** 700-2 (NA at night.). **Rwy 13,** 900-2 or std. with a min. climb of 300' per NM to 5400. **Rwy 17,** NA. **Rwys 26, 31,** 700-2 or std. with a min. climb of 370' per NM to 4700.

DEPARTURE PROCEDURE: **Rwys 3, 8,** turn left. Climb to 6500, intercept the 046° bearing outbound from SPF NDB. Thence... **Rwy 13,** climb runway heading to 4300, then climbing left turn to 6500 via heading 360° to intercept the 046° bearing outbound from SPF NDB. Thence... **Rwys 21, 35,** turn right. Climb to 6500 intercept the 046° bearing outbound from SPF NDB. Thence... **Rwy 26,** climbing right turn to 6500 via heading 330°, intercept the 297° bearing outbound from SPF NDB. Thence... **Rwy 31,** after take-off, intercept 297° bearing outbound from SPF NDB. Climb to 6500. Thence... THENCE...Continue climb to enroute MEA's before proceeding on course.

STAPLES, MN

STAPLES MUNI (SAZ)
AMDT 2 87211 (FAA)

TAKE-OFF MINIMUMS: **Rwy 14,** 400-2.

STURGIS, SD
STURGIS MUNI (49B)
ORIG 96284 (FAA)
DEPARTURE PROCEDURE: **Rwy 11,** climb runway heading to 6000, then direct RAP VORTAC. **Rwy 29,** climb runway heading to 5000, then climbing right turn to 6000 direct RAP VORTAC.

THIEF RIVER FALLS, MN
THIEF RIVER FALLS RGNL (TVF)
ORIG 09071 (FAA)
NOTE: **Rwy 3,** trees beginning 3058' from DER, 678' right of centerline, up to 100' AGL/1229' MSL. **Rwy 13,** trees beginning 565' from DER, 372' left of centerline, up to 100' AGL/1214' MSL. Trees beginning 1337' from DER, 531' right of centerline, up to 100' AGL/1209' MSL. **Rwy 21,** trees beginning 214' from DER, 544' right of centerline, up to 100' AGL/1204' MSL. Trees beginning 2185' from DER, 33' left of centerline, up to 100' AGL/1209' MSL. **Rwy 31,** trees beginning 126' from DER, 410' right of centerline, up to 100' AGL/1214' MSL. Trees beginning 199' from DER, 413' left of centerline, up to 100' AGL/1209' MSL. Trees beginning 1204' from DER, 449' right of centerline, up to 100' AGL/1199' MSL. Trees beginning 1579' from DER, 495' left of centerline, up to 100' AGL/1214' MSL.

TIOGA, ND
TIOGA MUNI (D60)
ORIG 09239 (FAA)
TAKE-OFF MINIMUMS: **Rwys 3, 21,** NA-Environmental.
NOTE: **Rwy 12,** vehicle on road 1243' from DER, 78' left of centerline, 15' AGL/2304' MSL. Vehicle on road, tree and pole beginning 618' from DER, 50' right of centerline, up to 100' AGL/2419' MSL. Ground 21' from DER, 481' right of centerline, 2272' MSL. **Rwy 30,** vehicle on road 1' from DER, 144' left of centerline, 15' AGL/2256' MSL.

TOWER, MN
TOWER MUNI (12D)
ORIG 09127 (FAA)
TAKE-OFF MINIMUMS: **Rwy 8,** NA - Obstacles.
NOTE: **Rwy 26,** tree 2315' from DER, 700' right of centerline, 100' AGL/1479' MSL.

VALLEY CITY, ND
BARNES COUNTY MUNI (6D8)
ORIG 10098 (FAA)
NOTE: **Rwy 13,** vehicle on road, 111' from DER, 356' right of centerline, 15' AGL/1396' MSL. Trees beginning 644' from DER, 242' right of centerline, up to 40' AGL/1421' MSL. **Rwy 31,** terrain beginning 32' from DER, 20' right of centerline, up to 1424' MSL. Vehicle on road 38' from DER, 285' right of centerline, 15' AGL/1418' MSL. Fence 71' from DER, 292' left of centerline, 4' AGL/1407' MSL. Terrain beginning 120' from DER, 125' left of centerline, up to 1447' MSL. Fence 198' from DER, 299' right of centerline, 4' AGL/1408' MSL. Trees beginning 365' from DER, 10' left of centerline, up to 40' AGL/1457' MSL. Tree 545' from DER, 607' right of centerline, 16' AGL/1436' MSL.

VERMILLION, SD
HAROLD DAVIDSON FIELD (VMR)
AMDT 1 09239 (FAA)
NOTE: **Rwy 12,** road 1' from DER, 200' right of centerline, up to 15' AGL/1156' MSL. Multiple trees beginning 541' from DER, 366' right of centerline, up to 62' AGL/1202' MSL. **Rwy 30,** road 79' from DER 342' left of centerline 15' AGL/1155' MSL. Road 200' from DER, 450' right of centerline, 15' AGL/1160' MSL. Fence 199' from DER, 347' left of centerline, 6' AGL/1150' MSL.

WAHPETON, ND
HARRY STERN (BWP)
ORIG 93259 (FAA)
TAKE-OFF MINIMUMS: **Rwy 3**, 300-1.

WARREN, MN
WARREN MUNI (D37)
ORIG 02108 (FAA)
DEPARTURE PROCEDURE: **Rwy 30,** climb runway heading to 1400 before turning on course.

WARROAD, MN
WARROAD INTL MEMORIAL (RRT)
ORIG 08101 (FAA)
TAKE-OFF MINIMUMS: **Rwys 4, 22,** NA-Environmental.

WASECA, MN
WASECA MUNI (ACQ)
ORIG 09015 (FAA)
NOTE: **Rwy 15,** tree 560' from departure end of runway, 560' right of centerline, 100' AGL/1239' MSL. Terrain beginning 172' from departure end of runway, on centerline, up to 1149' MSL. **Rwy 33,** tree 5042' from departure end of runway, 1533' right of centerline, 100' AGL/1259' MSL.

WATERTOWN, SD
WATERTOWN RGNL (ATY)
ORIG 07242 (FAA)
NOTE: **Rwy 12,** tree 2015' from departure end of runway, 328' right of centerline, 100' AGL/1783' MSL. **Rwy 30,** trees 2149' from departure end of runway, 10' right of centerline, 51' AGL/1810' MSL. Tree 2200' from departure end of runway, 441' left of centerline, 70' AGL/1810' MSL. Tree 2082' from departure end of runway, 121' right of centerline, 55' AGL/1806' MSL.

WATFORD CITY, ND
WATFORD CITY MUNI (S25)
ORIG 98225 (FAA)
TAKE-OFF MINIMUMS: **Rwy 30,** 400-1 or std. with a min. climb of 340' per NM to 2600. **Rwy 12,** 300-1 or std. with a min climb of 300' per NM to 2600.

WHEATON, MN

WHEATON MUNI (ETH)
AMDT 1 92177 (FAA)
TAKE-OFF MINIMUMS: **Rwy 16,** 300-1. **Rwys 4, 22,** NA.

WILLISTON, ND

SLOULIN FIELD INTL (ISN)
AMDT 3 00251 (FAA)
TAKE-OFF MINIMUMS: **Rwy 29,** 300-1or std. with a min. climb of 270' per NM to 2300.
DEPARTURE PROCEDURE: **Rwy 20,** climb runway heading to 2300 before turning westbound.

WILLMAR, MN

WILLMAR MUNI-JOHN L. RICE FIELD (BDH)
ORIG 06327 (FAA)
NOTE: **Rwy 31,** tree 1338' from departure end of runway, 740' left of centerline, 67' AGL/1193' MSL.

WINNER, SD

WINNER RGNL (ICR)
AMDT 3 09127 (FAA)
TAKE-OFF MINIMUMS: **Rwys 3, 21,** NA-Environmental.

WINONA, MN

WINONA MUNI-MAX CONRAD FIELD (ONA)
AMDT 3 96228 (FAA)
TAKE-OFF MINIMUMS: **Rwy 12,** 300-1 or std. with a min. climb of 320' per NM to 800. **Rwy 17,** 600-1 or std. with a min. climb of 500' per NM to 1300. **Rwy 30,** 500-1 or std. with a min. climb of 500' per NM to 1200. **Rwy 35,** 700-1 or std. with a min. climb of 390' per NM to 1500.
DEPARTURE PROCEDURE: **Rwy 12,** climb to 1900 via ONA R-110 before turning. **Rwys 17, 30, 35,** climb runway heading to 1900 before turning.

WORTHINGTON, MN

WORTHINGTON MUNI (OTG)
AMDT 2 88154 (FAA)
TAKE-OFF MINIMUMS: **Rwy 17,** 300-1.
DEPARTURE PROCEDURE: **Rwys 11, 17, 29, 35,** when weather is below 800-1 climb runway heading to 2400 before turning.

YANKTON, SD

CHAN GURNEY MUNI (YKN)
AMDT 2 85003 (FAA)
TAKE-OFF MINIMUMS: **Rwy 31,** 300-1.
DEPARTURE PROCEDURE: **Rwys 1, 13, 19, 31,** climb runway heading to 2400 before turning.

APP CRS	Rwy ldg	3103
329°	TDZE	954
	Apt Elev	954

GPS RWY 33

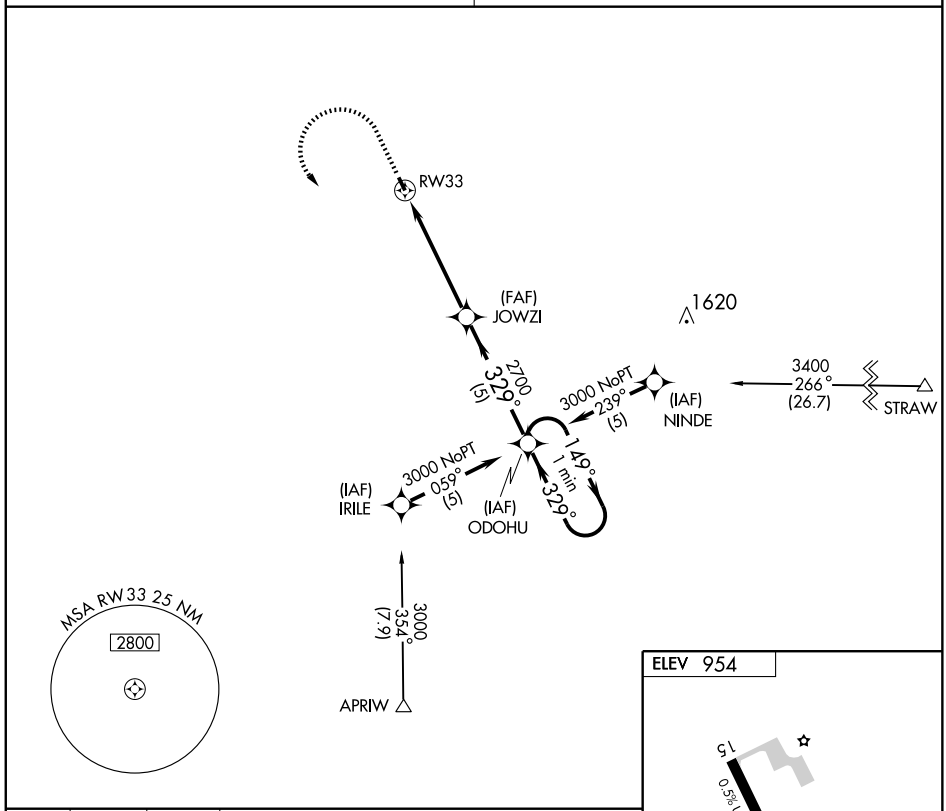
ADA/TWIN VALLEY/ NORMAN COUNTY ADA/TWIN VALLEY (DØØ)

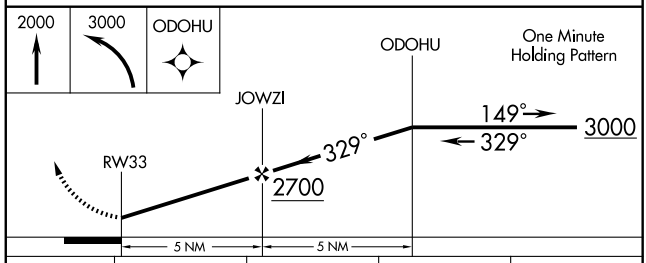
NA

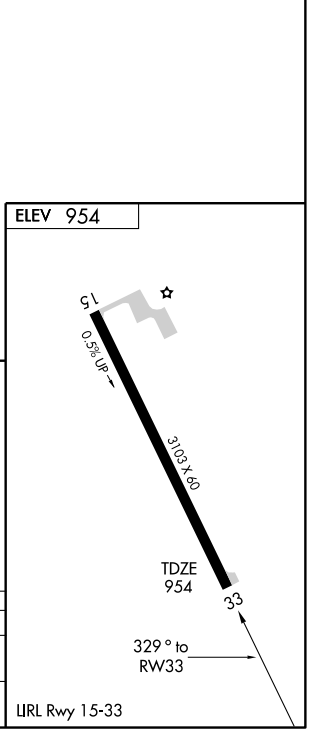
Use Hector Intl, ND altimeter setting.

MISSED APPROACH: Climb to 2000, then climbing left turn to 3000 direct ODOHU WP and hold.

FARGO APP CON★	CTAF
120.4 377.15	122.9







CATEGORY	A	B	C	D
S-33	1480-1	526 (600-1)	1480-1½ 526 (600-1½)	NA
CIRCLING	1480-1	526 (600-1)	1480-1½ 526 (600-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

NDB AIT 397	APP CRS 165°	Rwy ldg 4018 TDZE 1205 Apt Elev 1205

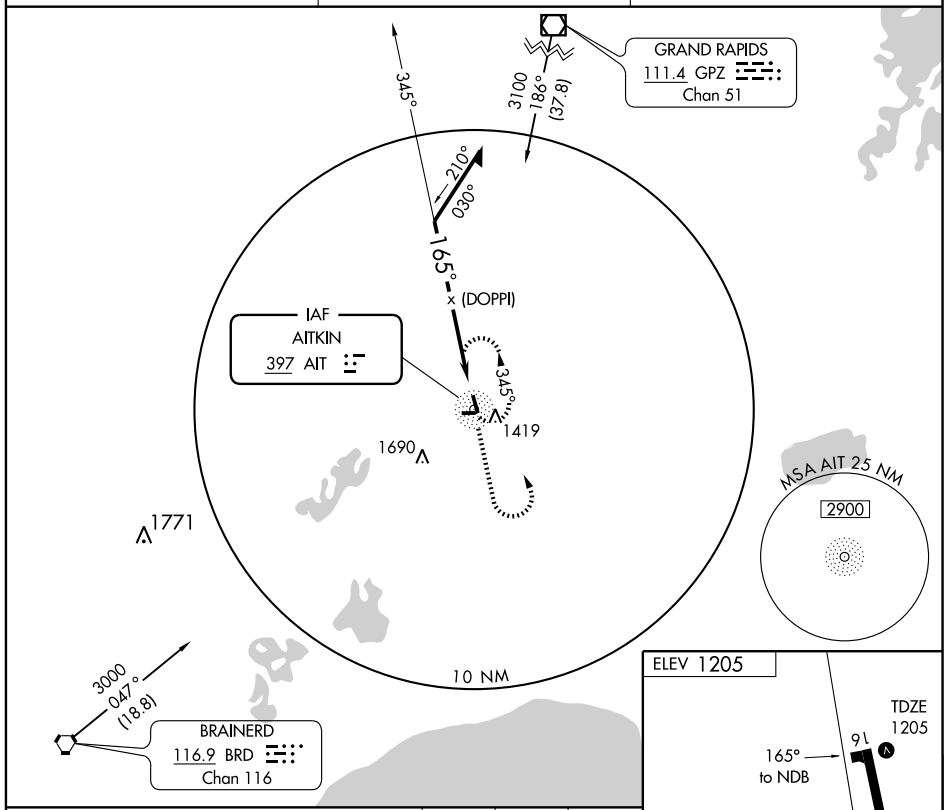
NDB or GPS RWY 16

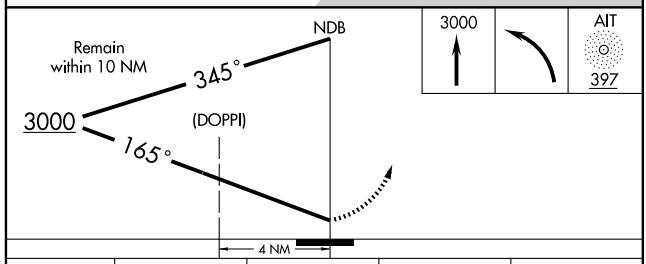
AITKIN MUNI-STEVE KURTZ FIELD (AIT)

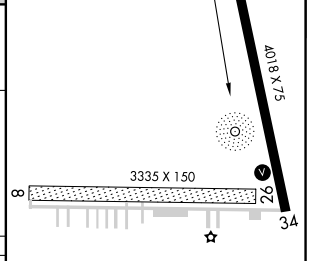
NA

MISSED APPROACH: Climb to 3000 then left turn direct AIT NDB and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
118.675	118.05 239.0	123.05 (CTAF) L







CATEGORY	A	B	C	D
S-16	1840-1	635 (700-1)	1840-1¾ 635 (700-1¾)	NA
CIRCLING	1840-1	635 (700-1)	1840-1¾ 635 (700-1¾)	NA

REIL Rwys 16 and 34 L
MIRL Rwy 16-34 L

NC-1. 08 APR 2010 to 06 MAY 2010

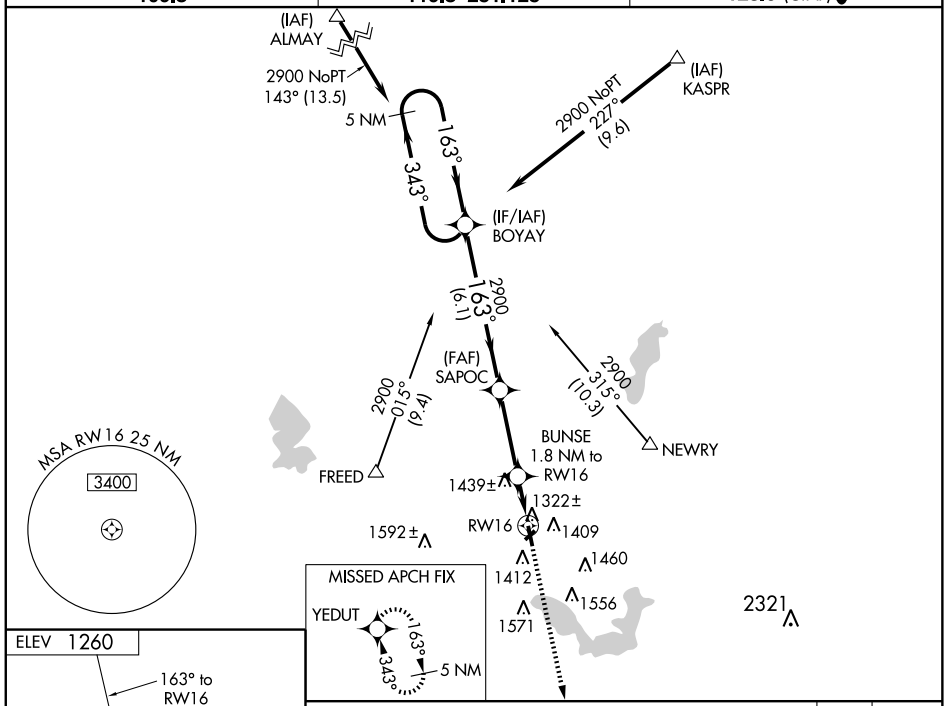
WAAS CH 49204 W16A	APP CRS 163°	Rwy ldg 4501 TDZE 1260 Apt Elev 1260

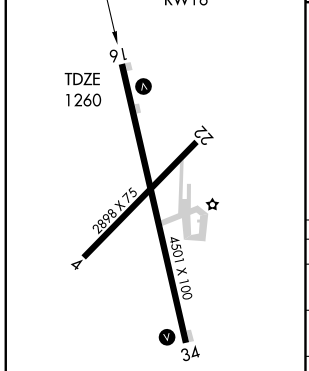
RNAV (GPS) RWY 16
ALBERT LEA MUNI (AEL)

Baro-VNAV NA when using Austin Muni altimeter setting.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). Visibility reduction for helicopters NA.
If local altimeter setting not received, use Austin Muni altimeter setting and increase all DAs 48 feet and all MDAs 60 feet.
VDP NA when using Austin Muni altimeter setting. DME/DME RNP-0.3 NA.

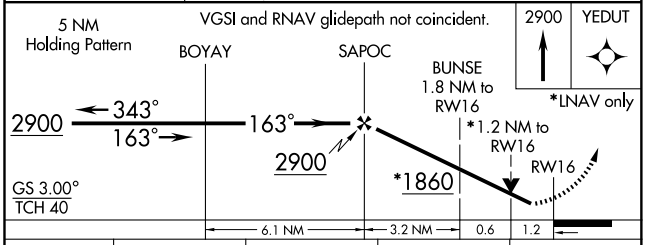
MISSED APPROACH: Climb to 2900 direct YEDUT and hold.

AWOS-3	ROCHESTER APP CON ★	UNICOM
109.8	119.8 251.125	123.0 (CTAF) L





MIRL Rwy 16-34 L
REIL Rwys 16 and 34 L



CATEGORY	A	B	C	D
LPV DA	1510-1 250 (300-1)			
LNAV/VNAV DA	1592-1¼ 332 (400-1¼)			
LNAV MDA	1700-1 440 (500-1)		1700-1¼ 440 (500-1¼)	1700-1½ 440 (500-1½)
CIRCLING	1780-1 520 (600-1)		1780-1½ 520 (600-1½)	1820-2 560 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	4501
343°	TDZE	1256
	Apt Elev	1259

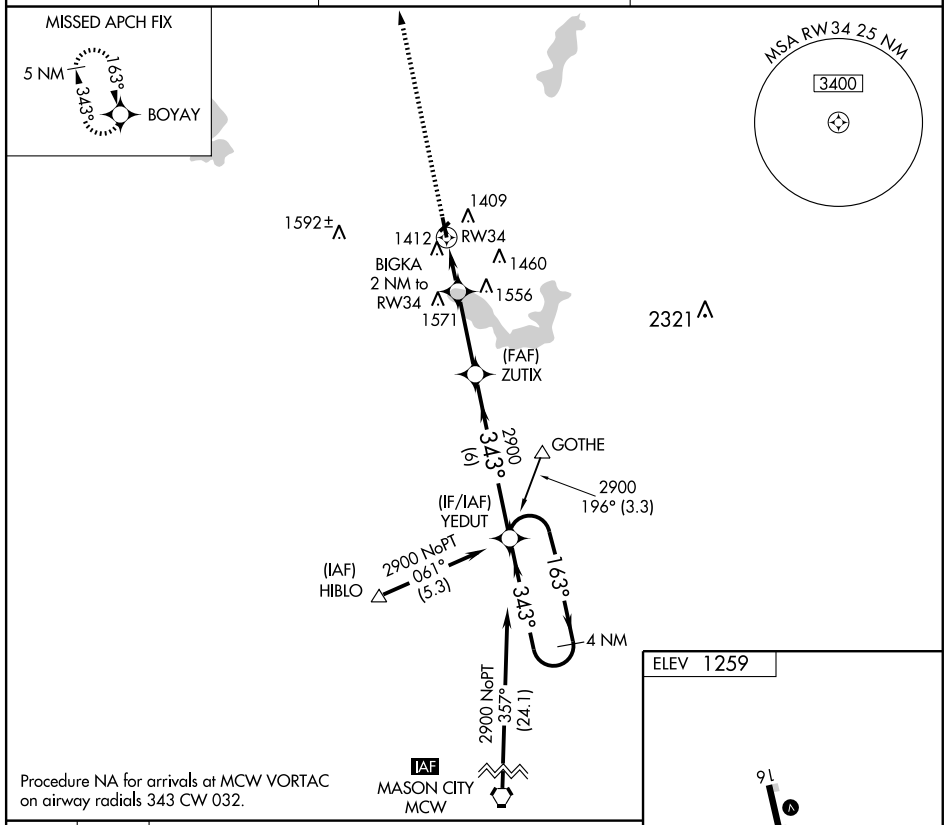
RNAV (GPS) RWY 34
ALBERT LEA MUNI (AEL)

T NA

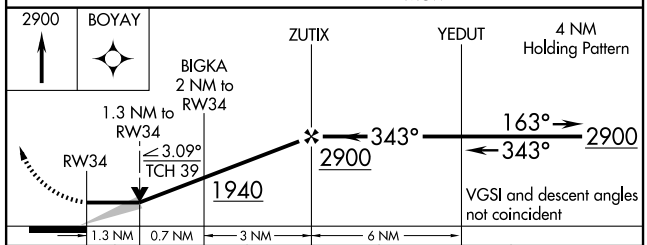
GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.
IAF ARM APPROACH MODE PRIOR TO IAF.

MISSED APPROACH: Climb to 2900 direct BOYAY WP and hold.

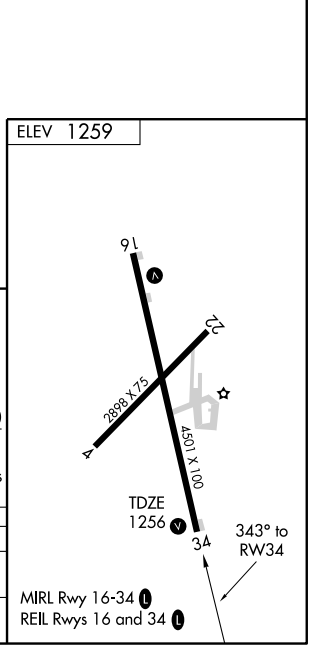
AWOS-3	ROCHESTER APP CON *	UNICOM
109.8	119.8 251.125	123.0 (CTAF) L



Procedure NA for arrivals at MCW VORTAC on airway radials 343 CW 032.



CATEGORY	A	B	C	D
LNAV MDA	1720-1 464 (500-1)		1720-1¼ 464 (500-1¼)	1720-1½ 464 (500-1½)
CIRCLING	1780-1 521 (600-1)		1780-1½ 521 (600-1½)	1820-2 561 (600-2)



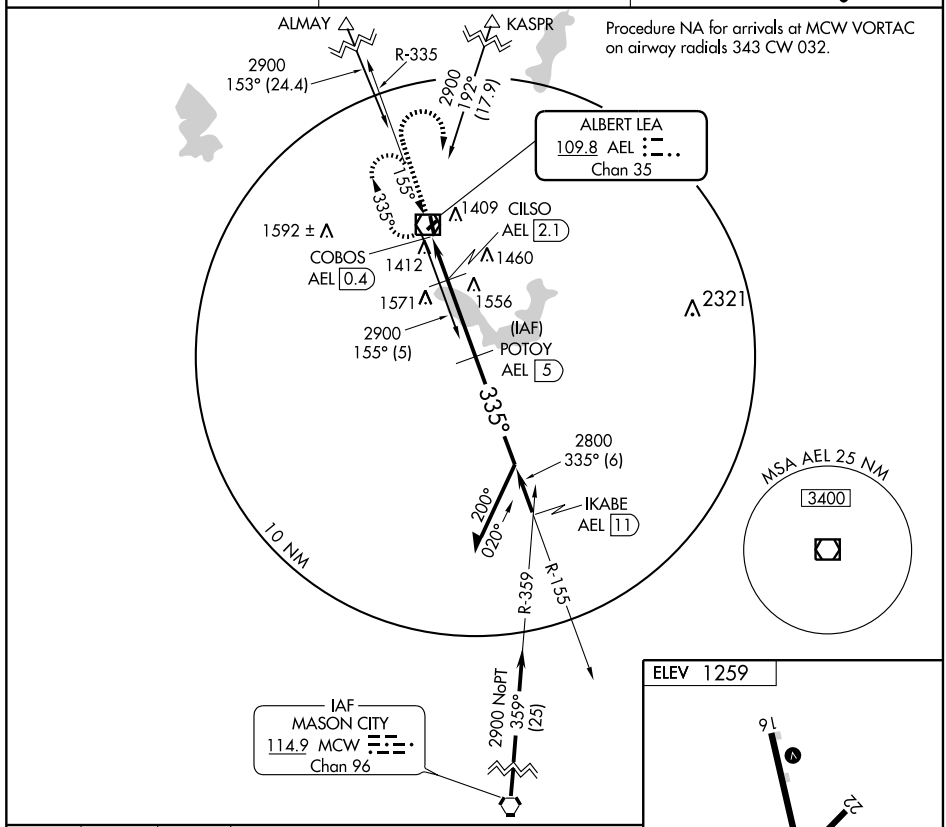
VOR/DME AEL 109.8 Chan 35	APP CRS 335°	Rwy ldg 4501 TDZE 1256 Apt Elev 1259

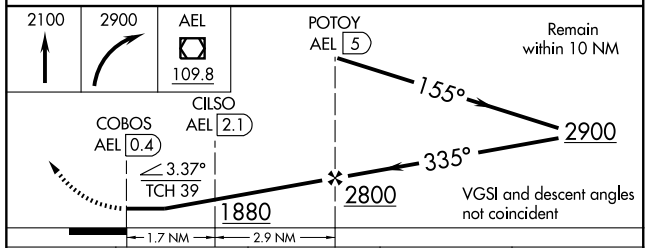
VOR/DME RWY 34
ALBERT LEA MUNI (AEL)

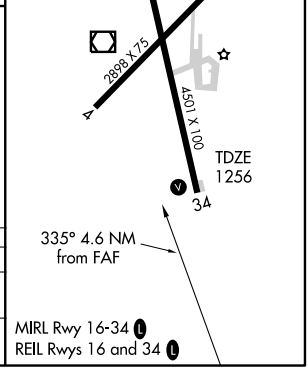
NA

MISSED APPROACH: Climb to 2100 then climbing right turn to 2900 direct AEL VOR/DME and hold.

AWOS-3	ROCHESTER APP CON ★	UNICOM
109.8	119.8 251.125	123.0 (CTAF) L







CATEGORY	A	B	C	D
S-34	1720-1 464 (500-1)		1720-1¼ 464 (500-1¼)	1720-1½ 464 (500-1½)
CIRCLING	1780-1 521 (600-1)		1780-1½ 521 (600-1½)	1820-2 561 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

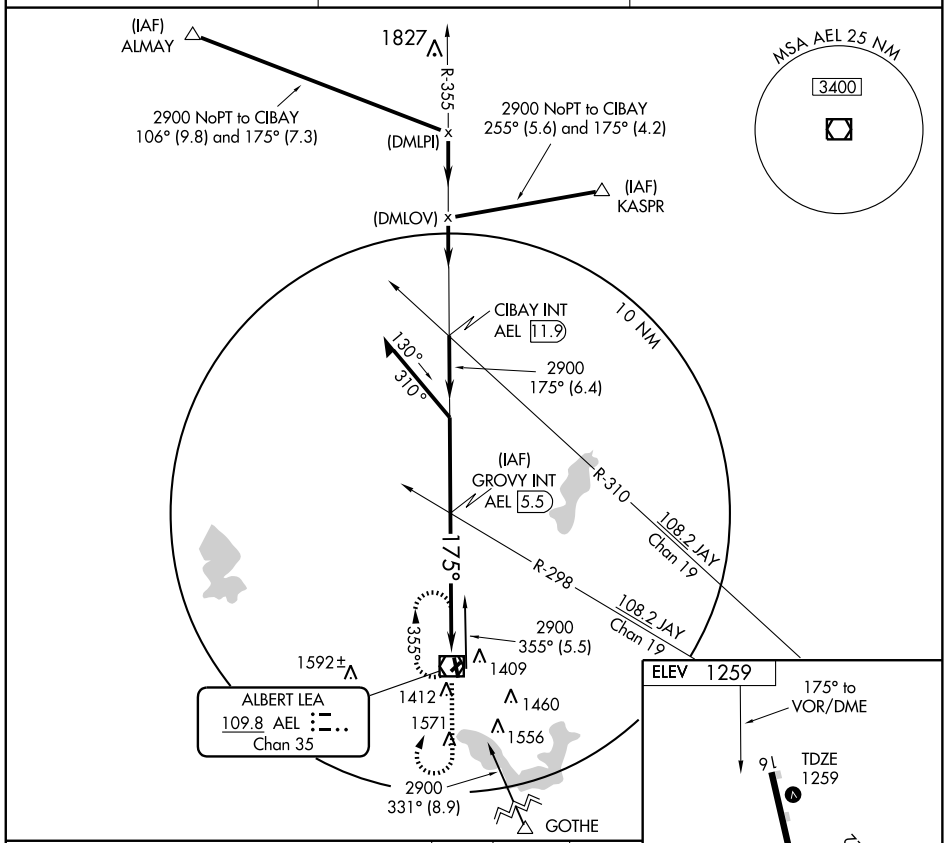
VOR/DME AEL 109.8 Chan 35	APP CRS 175°	Rwy ldg 4501 TDZE 1259 Apt Elev 1259

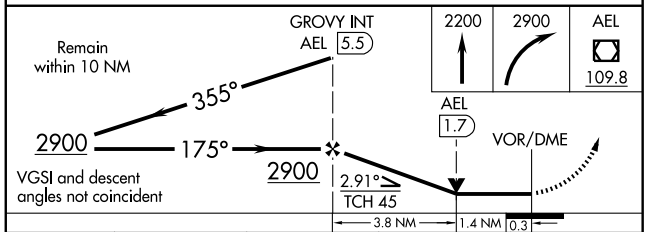
VOR RWY 16
ALBERT LEA MUNI (AEL)

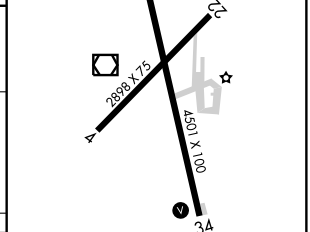
NA

MISSED APPROACH: Climb to 2200 then climbing right turn to 2900 direct AEL VOR/DME and hold.

AWOS-3	ROCHESTER APP CON ★	UNICOM
109.8	119.8 251.125	123.0 (CTAF) L







CATEGORY	A	B	C	D
S-16	1720-1 461 (500-1)		1720-1¼ 461 (500-1¼)	1720-1½ 461 (500-1½)
CIRCLING	1780-1 521 (600-1)		1780-1½ 521 (600-1½)	1820-2 561 (600-2)

MIRL Rwy 16-34 L
REIL Rwys 16 and 34 L

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-EEZ	APP CRS	Rwy ldg	5100
110.5	315°	TDZE	1423
		Apt Elev	1424

ILS or LOC RWY 31

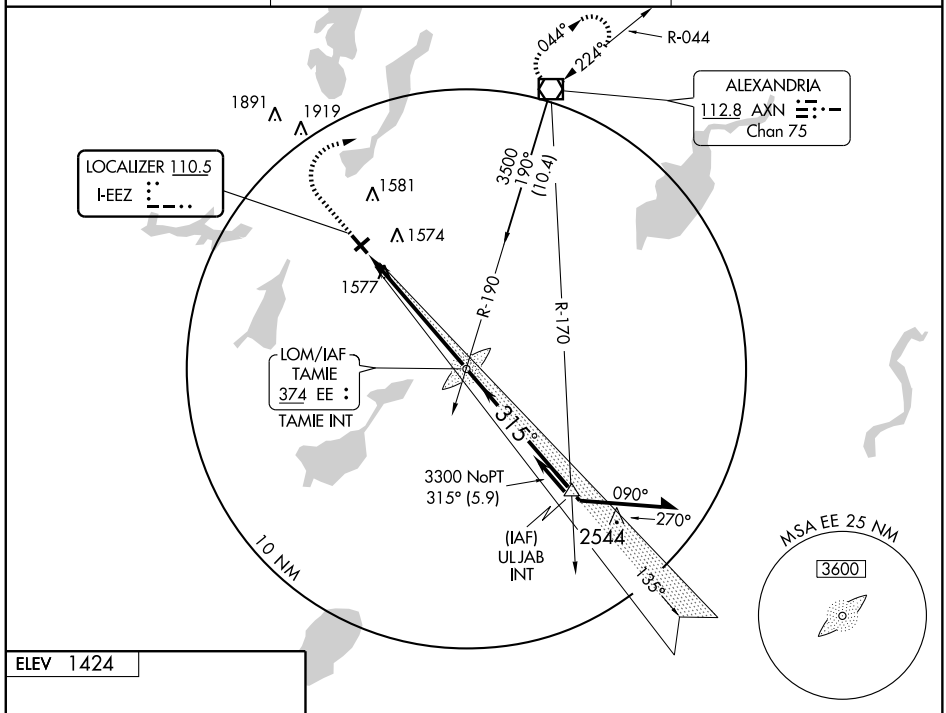
ALEXANDRIA/CHANDLER FIELD (AXN)

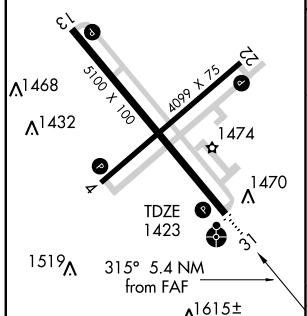
T NA Inoperative table does not apply to S-LOC 31 Category C.

ODALS

MISSED APPROACH: Climb to 2500 then climbing right turn to 3500 direct AXN VOR/DME and hold.

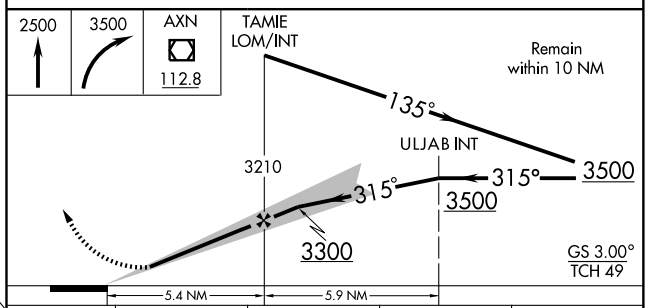
ASOS	MINNEAPOLIS CENTER	UNICOM
118.375	126.1 269.2	123.0 (CTAF) L





REIL Rwys 4,13 and 22 L
MIRL Rwys 4-22 and 13-31 L

FAF to MAP 5.4 NM					
Knots	60	90	120	150	180
Min:Sec	5:24	3:36	2:42	2:10	1:48



CATEGORY	A	B	C	D
S-ILS 31	1623-¾ 200 (200-¾)			
S-LOC 31	1840-¾ 417 (500-¾)		1840-1¼ 417 (500-1¼)	
CIRCLING	1920-1 496 (500-1)		1920-1½ 496 (500-1½)	1980-2 556 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 61007 W31A	APP CRS 315°	Rwy ldg 5100 TDZE 1423 Apt Elev 1424

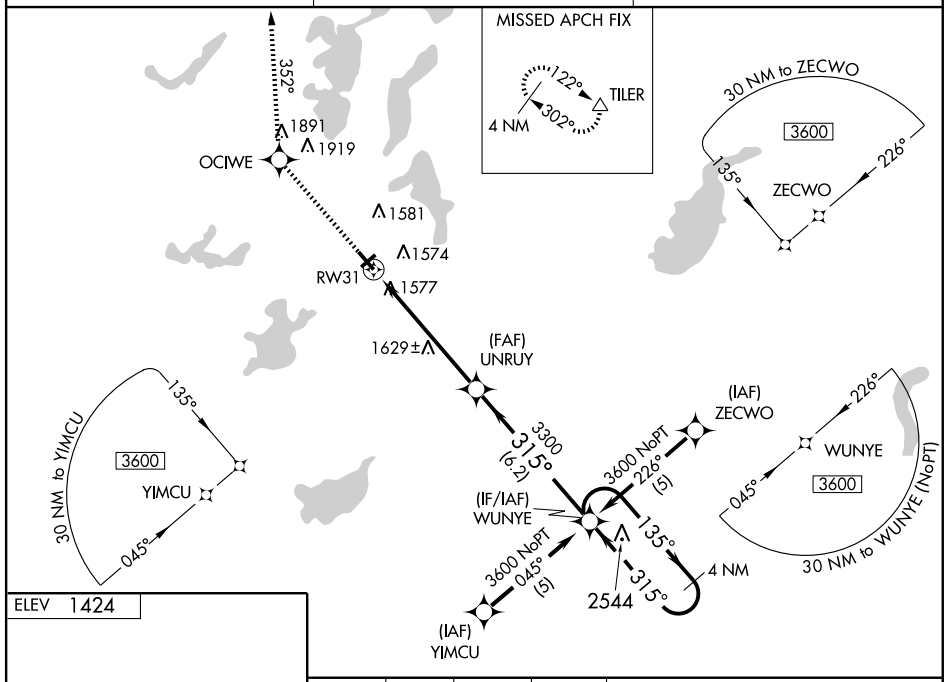
RNAV (GPS) RWY 31
ALEXANDRIA/ CHANDLER FIELD (AXN)

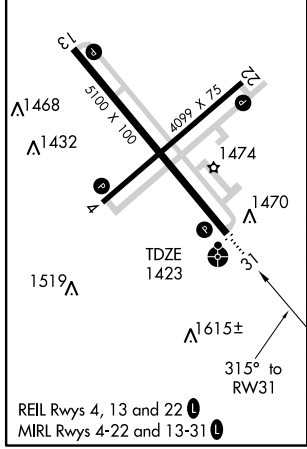
Inoperative table does not apply to LPV & LNAV/VNAV Cats A/B/C and LNAV Cat C. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP -0.3 NA. VDP and Baro-VNAV NA when using Glenwood altimeter setting. When local altimeter setting not received, use Glenwood altimeter setting and increase all DAs/MDAs 40 feet and increase LPV and LNAV/VNAV visibilities ¼ mile all Cats.

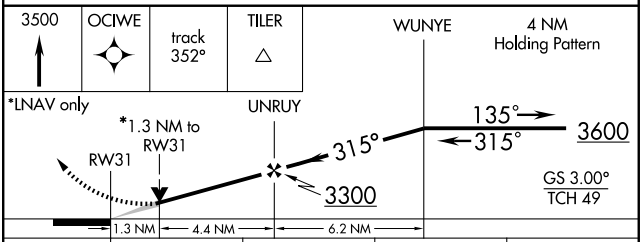
ODALS

MISSED APPROACH: Climb to 3500 direct OCIWE and via 352° track to TILER and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
118.375	126.1 269.2	123.0 (CTAF) L







CATEGORY	A	B	C	D
LPV DA	1815-1¼ 392 (400-1¼)			
LNAV/VNAV DA	1885-1½ 462 (500-1½)			
LNAV MDA	1880-¾ 457 (500-¾)		1880-1¼ 457 (500-1¼)	1880-1½ 457 (500-1½)
CIRCLING	1920-1 496 (500-1)		1920-1½ 496 (500-1½)	1980-2 556 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

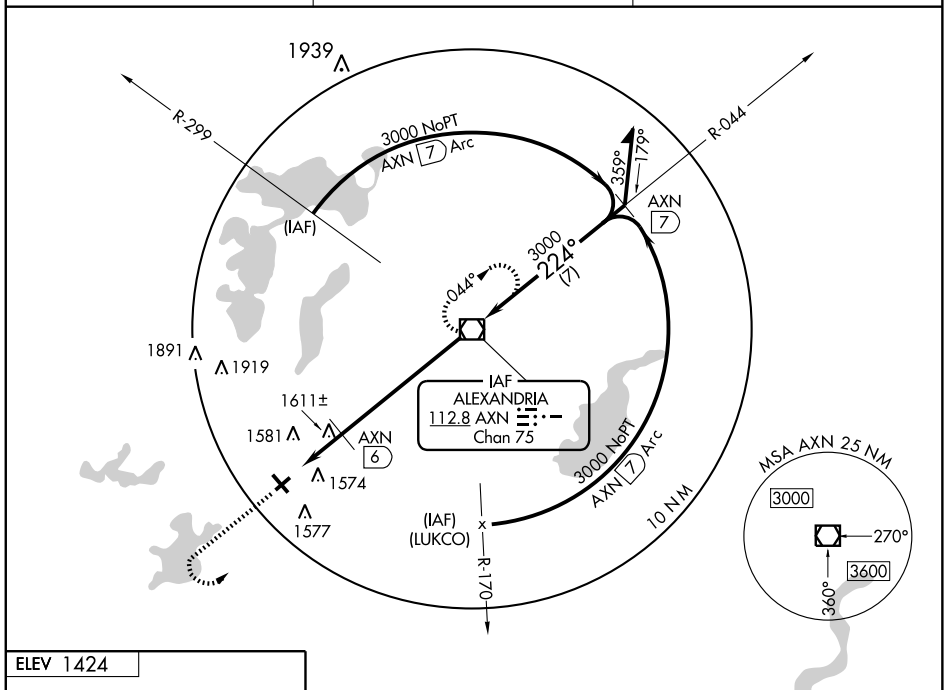
VOR/DME AXN 112.8 Chan 75	APP CRS 224°	Rwy ldg 4099 TDZE 1423 Apt Elev 1424

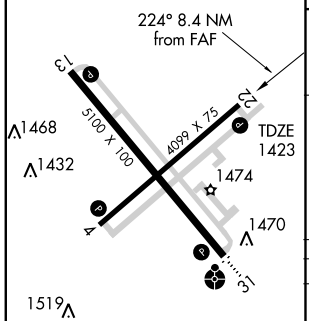
VOR RWY 22

ALEXANDRIA/CHANDLER FIELD (AXN)

MISSED APPROACH: Climb to 2500 then climbing left turn to 3000 direct to AXN VOR/DME and hold.

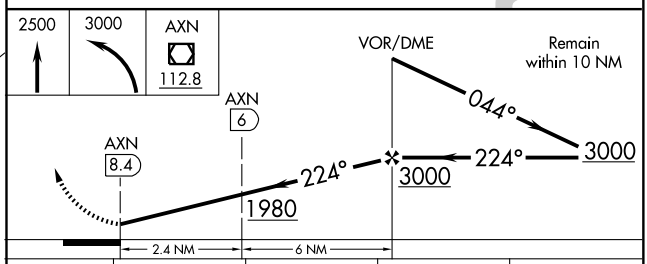
ASOS	MINNEAPOLIS CENTER	UNICOM
118.375	126.1 269.2	123.0 (CTAF) L





REIL Rwys 4, 13 and 22 L
MIRL Rwys 4-22 and 13-31 L

FAF to MAP 8.4 NM					
Knots	60	90	120	150	180
Min:Sec	8:24	5:36	4:12	3:22	2:48



CATEGORY	A	B	C	D
S-22	1980-1 557 (600-1)		1980-1½ 557 (600-1½)	1980-1¾ 557 (600-1¾)
CIRCLING	1980-1 556 (600-1)		1980-1½ 556 (600-1½)	1980-2 556 (600-2)
DME MINIMUMS				
S-22	1880-1 457 (500-1)		1880-1¼ 457 (500-1¼)	1880-1½ 457 (500-1½)
CIRCLING	1920-1 496 (500-1)		1920-1½ 496 (500-1½)	1980-2 556 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

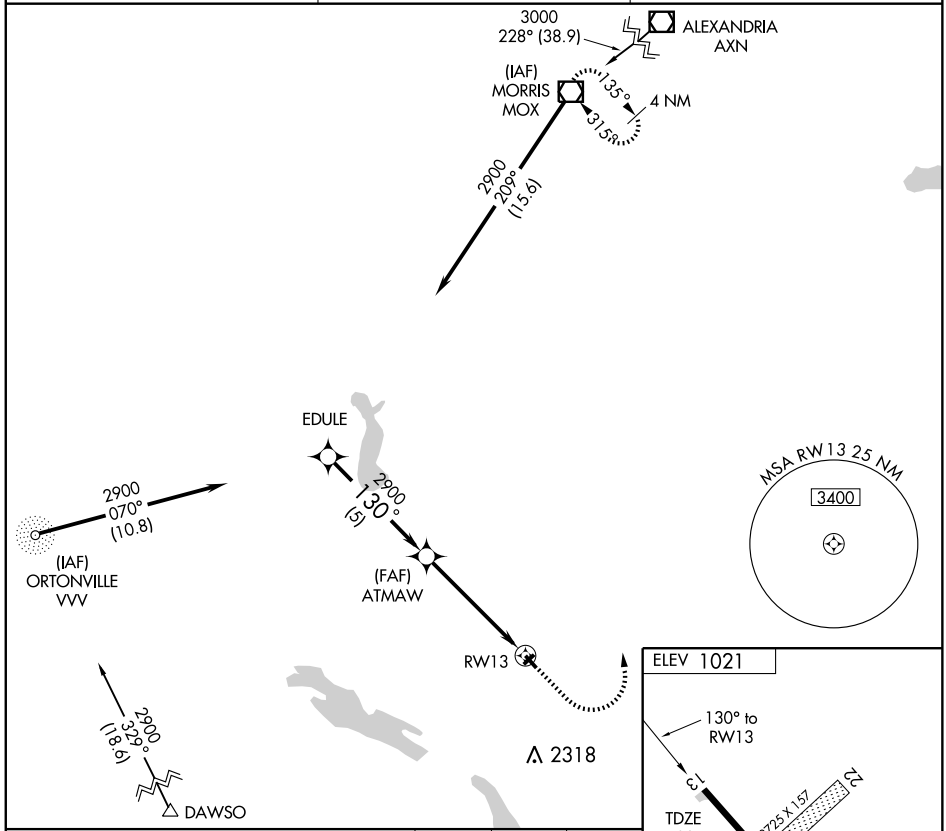
APP CRS	Rwy ldg	3500
130°	TDZE	1021
	Apt Elev	1021

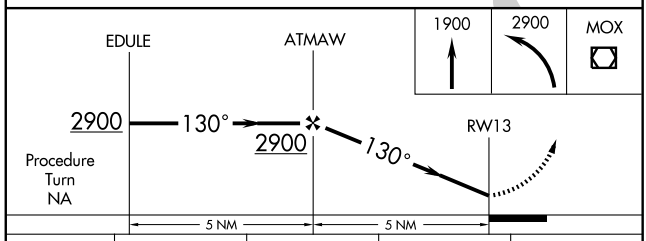
GPS RWY 13
APPLETON MUNI (AQP)

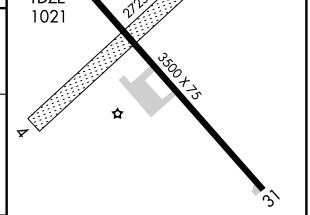
NA

MISSED APPROACH: Climb to 1900, then climbing left turn to 2900 direct MOX VOR/DME and hold.

AWOS-3	PRINCETON RADIO	CTAF
356	122.45	122.9 L







CATEGORY	A	B	C	D
S-13	1480-1	459 (500-1)	1480-1¼ 459 (500-1¼)	NA
CIRCLING	1480-1	459 (500-1)	1480-1½ 459 (500-1½)	NA

MIRL Rwy 13-31 L

NC-1. 08 APR 2010 to 06 MAY 2010

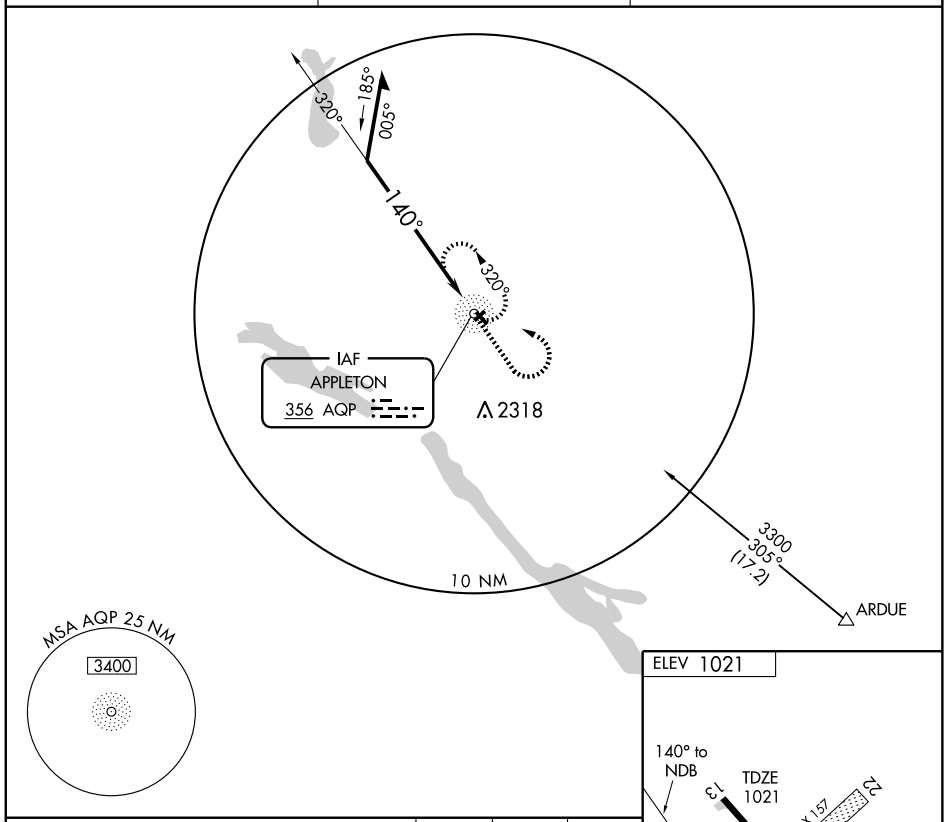
NDB AQP 356	APP CRS 140°	Rwy ldg 3500 TDZE 1021 Apt Elev 1021

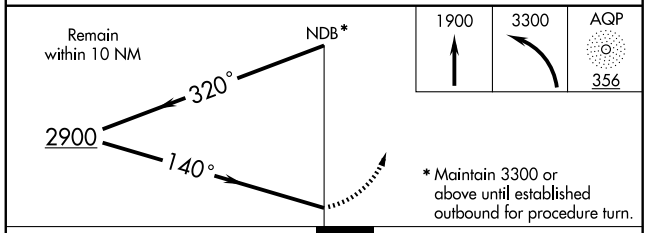
NDB RWY 13
APPLETON MUNI (AQP)

NA

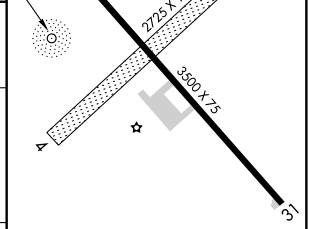
MISSED APPROACH: Climb to 1900 then climbing left turn to 3300 direct AQP NDB and hold.

AWOS-3	PRINCETON RADIO	CTAF
356	122.45	122.9 L





* Maintain 3300 or above until established outbound for procedure turn.



MIRL Rwy 13-31 L

CATEGORY	A	B	C	D
S-13	1600-1	579 (600-1)	1600-1½ 579 (600-1½)	NA
CIRCLING	1600-1	579 (600-1)	1600-1½ 579 (600-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-AUM	APP CRS	Rwy ldg	5800
110.55	351°	TDZE	1234
		Apt Elev	1234

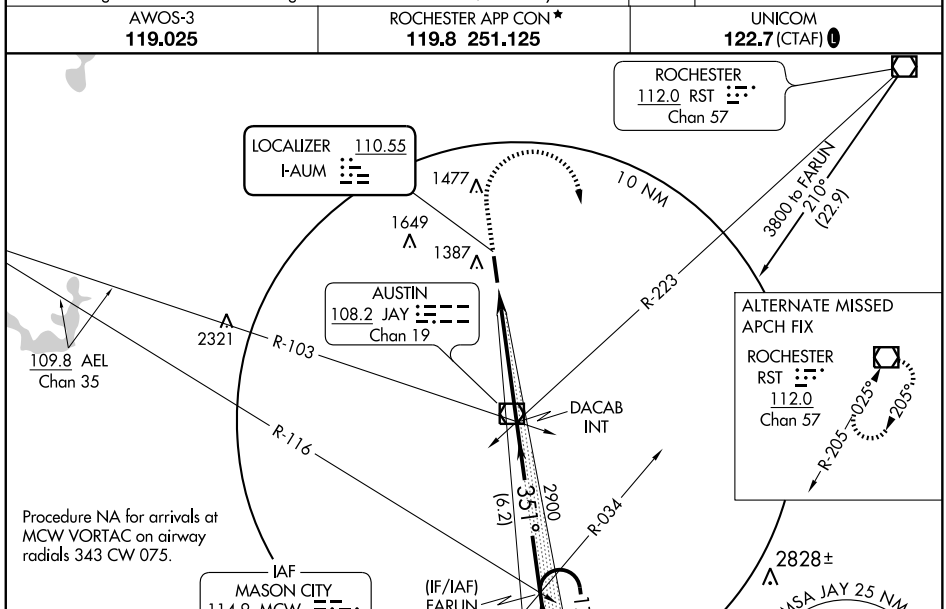
ILS or LOC RWY 35
AUSTIN MUNI (AUM)

T A NA Inoperative table does not apply to S-ILS 35 when using local altimeter setting. When local altimeter setting not received, use Albert Lea altimeter setting and increase DA to 1532 feet and all MDAs 60 feet, increase S-LOC 35 Cat C/D visibility ¼ mile. Visibility reduction by helicopters NA. For inoperative MALSR, increase S-LOC 35 Cat A/B visibility to 1 mile, when using Albert Lea altimeter setting increase S-LOC 35 Cat A/B visibility to 1 mile.

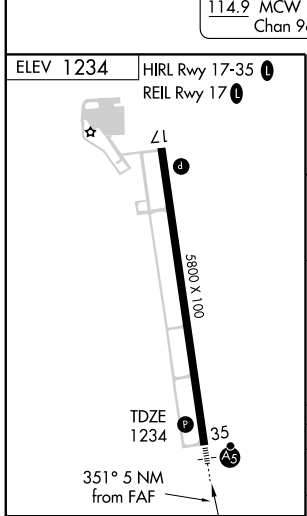
MALSR A5

MISSED APPROACH: Climb to 1800 then climbing right turn to 3800 via heading 150° and MCW VORTAC R-034 to FARUN INT and hold.

AWOS-3	ROCHESTER APP CON★	UNICOM
119.025	119.8 251.125	122.7 (CTAF) L

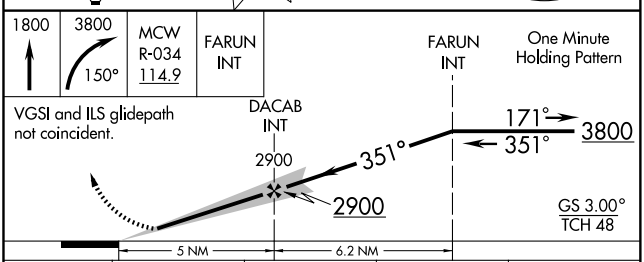


ELEV 1234	HIRL Rwy 17-35 L REIL Rwy 17 L



FAF to MAP 5 NM					
Knots	60	90	120	150	180
Min:Sec	5:00	3:20	2:30	2:00	1:40

1800	3800	MCW R-034 114.9	FARUN INT
	150°		



CATEGORY	A	B	C	D
S-ILS 35	1484-¾ 250 (300-¾)			
S-LOC 35	1700-¾ 466 (500-¾)			1700-1 466 (500-1)
CIRCLING	1740-1 506 (600-1)		1740-1½ 506 (600-1½)	1800-2 566 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	5800
169°	TDZE	1231
	Apt Elev	1234

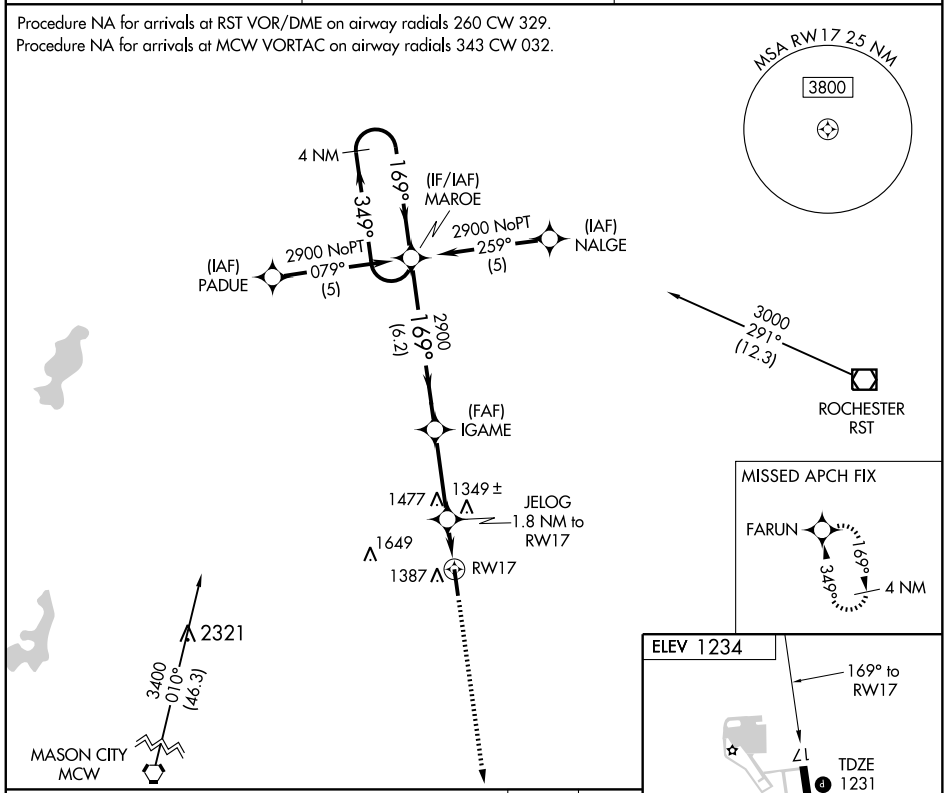
RNAV (GPS) RWY 17
AUSTIN MUNI (AUM)

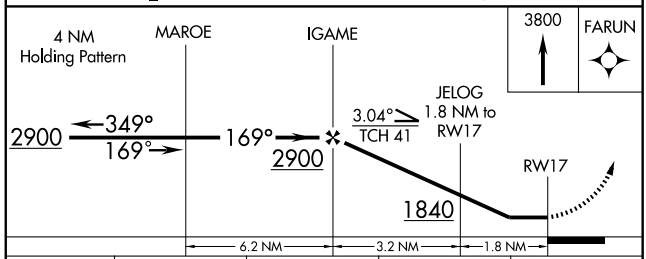
DME/DME RNP -0.3 NA.
Visibility reduction by helicopters NA.
When local altimeter setting not received, use Albert Lea altimeter setting and increase all MDAs 60 feet, and LNAV Cat C/D visibility ¼ mile.

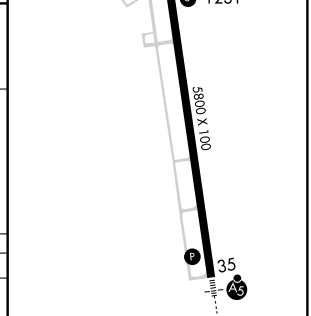
MISSED APPROACH: Climb to 3800 direct FARUN and hold.

AWOS-3	ROCHESTER APP CON★	UNICOM
119.025	119.8 251.125	122.7 (CTAF) L

Procedure NA for arrivals at RST VOR/DME on airway radials 260 CW 329.
Procedure NA for arrivals at MCW VORTAC on airway radials 343 CW 032.







CATEGORY	A	B	C	D
LNAV MDA	1700-1 469 (500-1)		1700-1¼ 469 (500-1¼)	1700-1½ 469 (500-1½)
CIRCLING	1740-1 506 (600-1)		1740-1½ 506 (600-1½)	1800-2 566 (600-2)

HIRL Rwy 17-35 L
REIL Rwy 17 L

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 99506 W35A	APP CRS 349°	Rwy ldg 5800 TDZE 1234 Apt Elev 1234

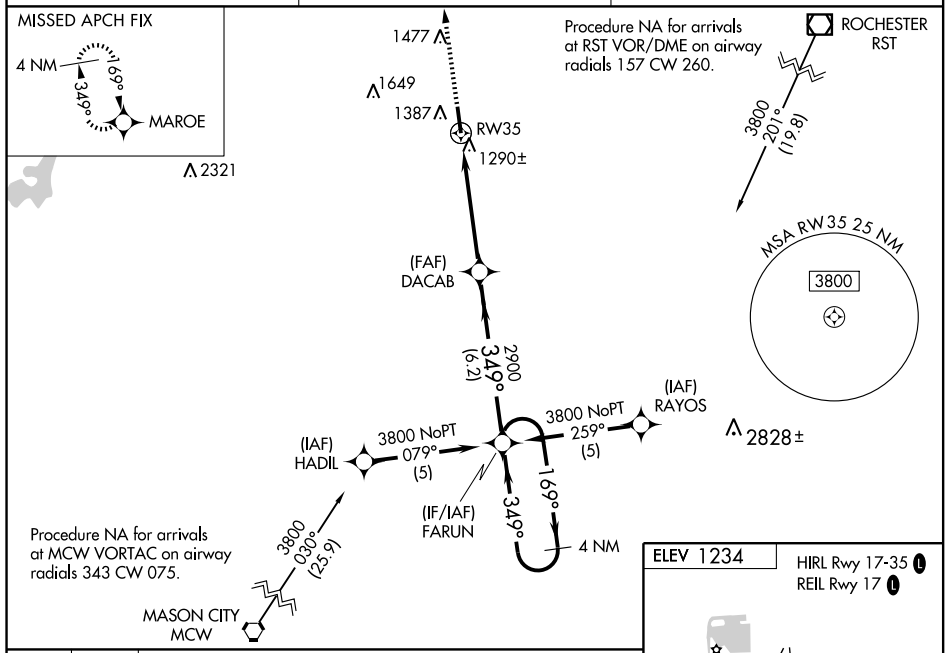
RNAV (GPS) RWY 35
AUSTIN MUNI (AUM)

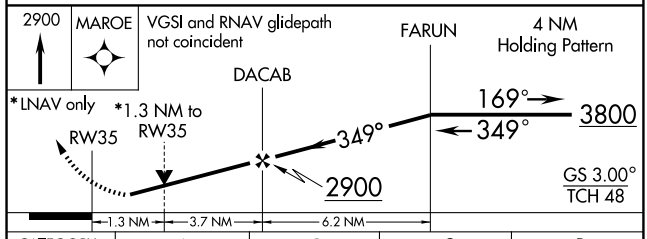
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (115°F).
DME/DME RNP- 0.3 NA. Visibility reduction by helicopters NA.
Baro-VNAV and VDP NA when using Albert Lea altimeter setting. When local altimeter setting not received, use Albert Lea altimeter setting and increase all DAs 48 feet and all MDAs 60 feet, increase LNAV/VNAV visibility ¼ mile all Cats, and LNAV Cat C/D visibility ¼ mile.
For inoperative MALSR, when using Albert Lea altimeter setting, increase LPV visibility to 1¼ mile all Cats.

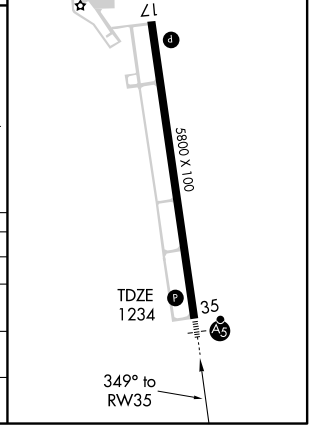
MALSR

MISSED APPROACH: Climb to 2900 direct MAROE and hold.

AWOS-3	ROCHESTER APP CON ★	UNICOM
119.025	119.8 251.125	122.7 (CTAF) L







CATEGORY	A	B	C	D
LPV DA	1527-¾ 293 (300-¾)			
LNAV/VNAV DA	1578-¾ 344 (400-¾)			
LNAV MDA	1700-¾ 466 (500-¾)			1700-1 466 (500-1)
CIRCLING	1740-1 506 (600-1)		1740-1½ 506 (600-1½)	1800-2 566 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

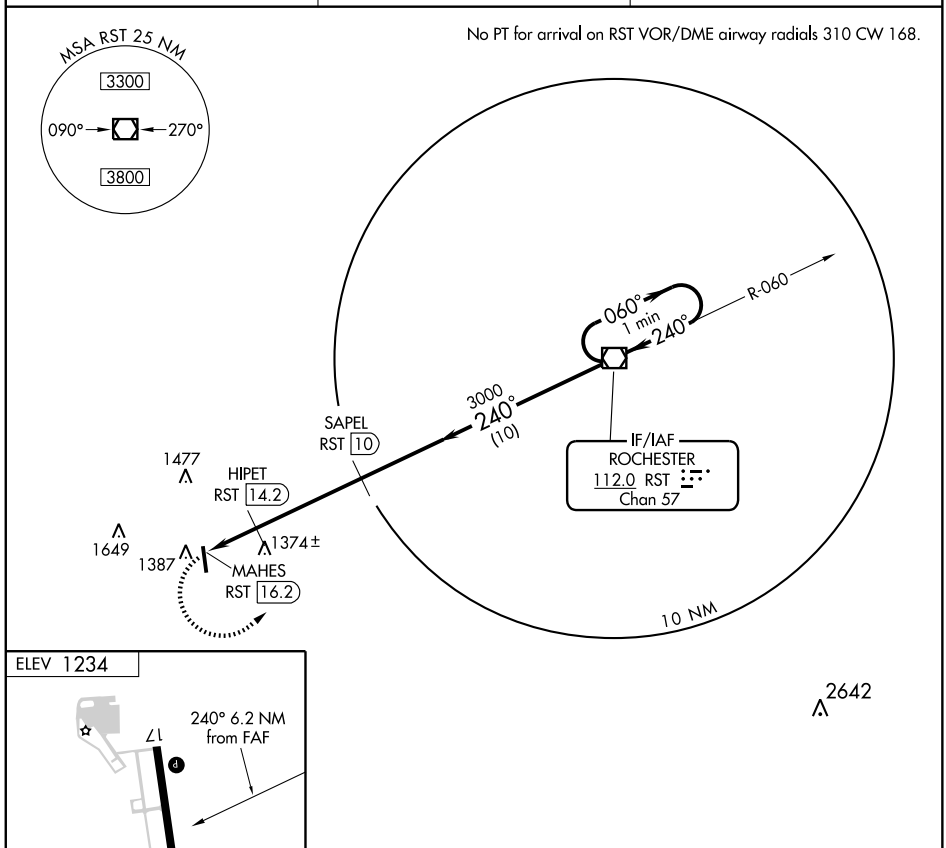
VOR/DME RST	APP CRS	Rwy ldg	N/A
112.0	240°	TDZE	N/A
Chan 57		Apt Elev	1234

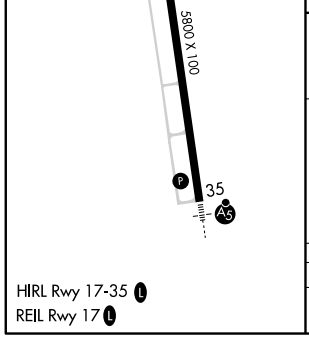
VOR/DME-A
AUSTIN MUNI (AUM)

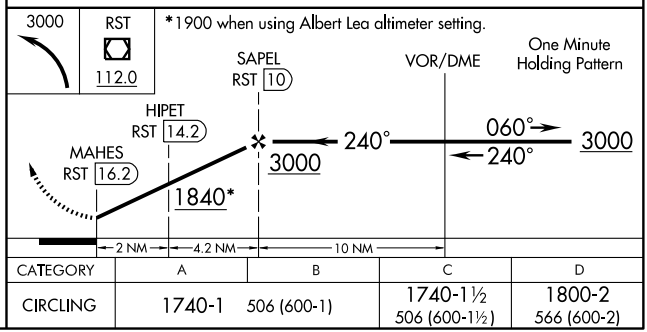
When local altimeter setting not received, use Albert Lea altimeter setting and increase all MDAs 60 feet.

MISSED APPROACH: Climbing left turn to 3000 direct RST VOR/DME and hold.

AWOS-3	ROCHESTER APP CON*	UNICOM
119.025	119.8 251.125	122.7 (CTAF) L







CATEGORY	A	B	C	D
CIRCLING	1740-1	506 (600-1)	1740-1½ 506 (600-1½)	1800-2 566 (600-2)

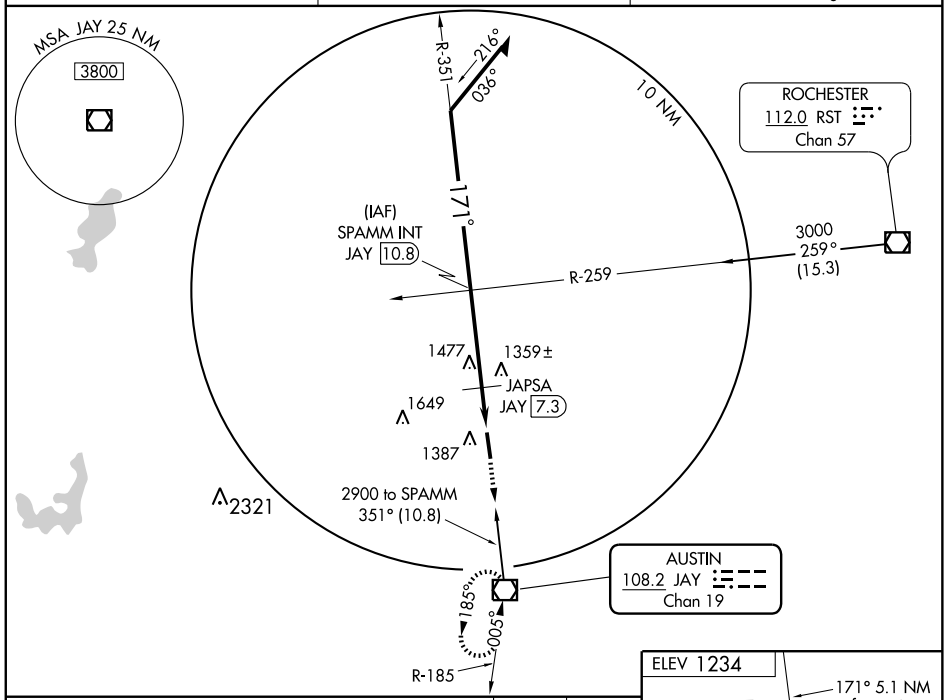
VOR/DME JAY	APP CRS	Rwy ldg	5800
108.2	171°	TDZE	1231
Chan 19		Apt Elev	1234

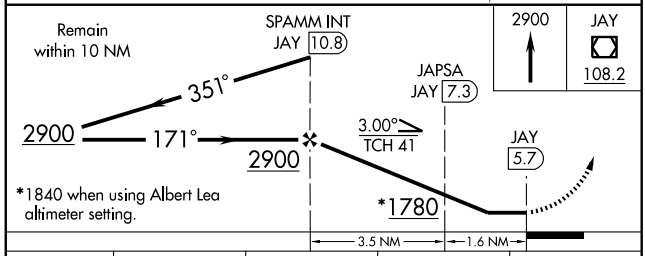
VOR RWY 17
AUSTIN MUNI (AUM)

Visibility reduction by helicopters NA.
NA When local altimeter setting not received, use Albert Lea altimeter setting and increase all MDAs 60 feet, and S-17 Cat. C/D and circling Cat. C visibility ¼ mile. Increase JAPSA FIX MINIMUMS S-17 Cat. C/D visibility ¼ mile.

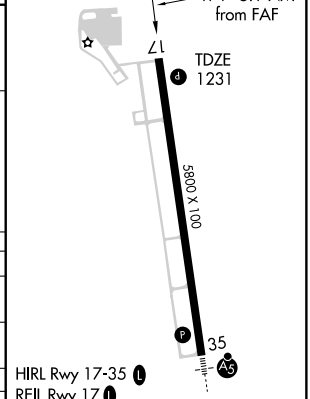
MISSED APPROACH: Climb to 2900 direct JAY VOR/DME and hold.

AWOS-3	ROCHESTER APP CON ★	UNICOM
119.025	119.8 251.125	122.7 (CTAF) L





CATEGORY	A	B	C	D
S-17	1780-1 549 (600-1)		1780-1½ 549 (600-1½)	1780-1¾ 549 (600-1¾)
CIRCLING	1780-1 546 (600-1)		1780-1½ 546 (600-1½)	1800-2 566 (600-2)
JAPSA FIX MINIMUMS				
S-17	1620-1 389 (400-1)			1620-1¼ 389 (400-1¼)
CIRCLING	1740-1 506 (600-1)		1740-1½ 506 (600-1½)	1800-2 566 (600-2)



FAF to MAP 5.1 NM					
Knots	60	90	120	150	180
Min:Sec	5:06	3:24	2:33	2:02	1:42

VOR/DME JAY 108.2 Chan 19	APP CRS 351°	Rwy ldg 5800 TDZE 1234 Apt Elev 1234

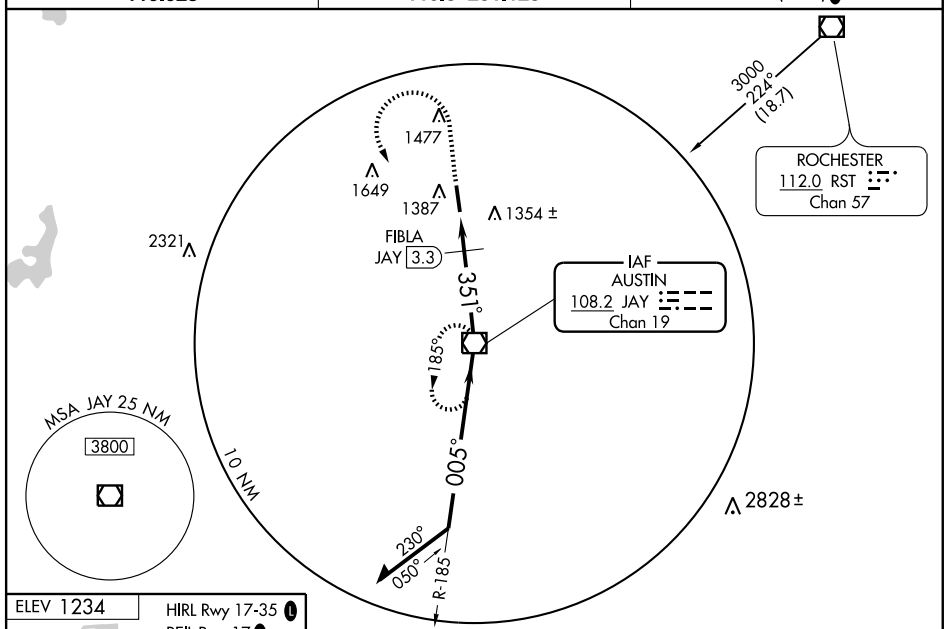
VOR RWY 35
AUSTIN MUNI (AUM)

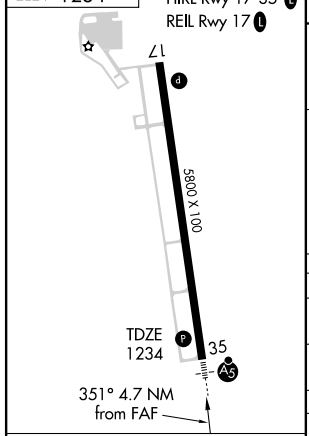
T NA Visibility reduction by helicopters NA.
When local altimeter setting not received, use Albert Lea altimeter setting and increase all MDAs 60 feet, and S-35 Cats C/D visibility ¼ mile.
For inoperative MALSR, increase S-35 Cats A/B visibility to 1 mile and FIBLA FIX MINIMUMS S-35 Cats A/B/C visibility to 1 mile and Cat D to 1¼ mile, when using Albert Lea altimeter setting increase S-35 Cats A/B and FIBLA FIX MINIMUMS S-35 Cats A/B visibility to 1 mile.

MALSR A5

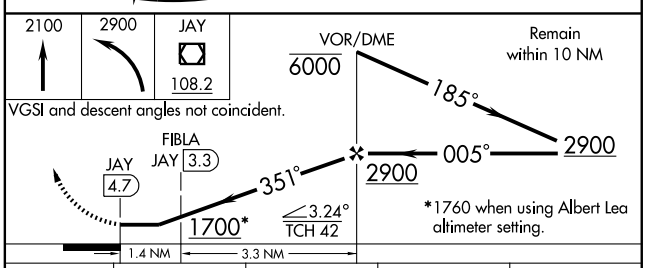
MISSED APPROACH: Climb to 2100 then climbing left turn to 2900 direct JAY VOR/DME and hold.

AWOS-3	ROCHESTER APP CON ★	UNICOM
119.025	119.8 251.125	122.7 (CTAF) L





FAF to MAP 4.7 NM					
Knots	60	90	120	150	180
Min:Sec	4:42	3:08	2:21	1:53	1:34



CATEGORY	A	B	C	D
S-35	1700- ¾ 466 (500-¾)			1700-1 466 (500-1)
CIRCLING	1740-1 506 (600-1)		1740-1½ 506 (600-1½)	1800-2 566 (600-2)
	FIBLA FIX MINIMUMS			
S-35	1620- ¾ 386 (400-¾)			1620-1 386 (400-1)
CIRCLING	1740-1 506 (600-1)		1740-1½ 506 (600-1½)	1800-2 566 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	5499
117°	TDZE	1084
	Apt Elev	1084

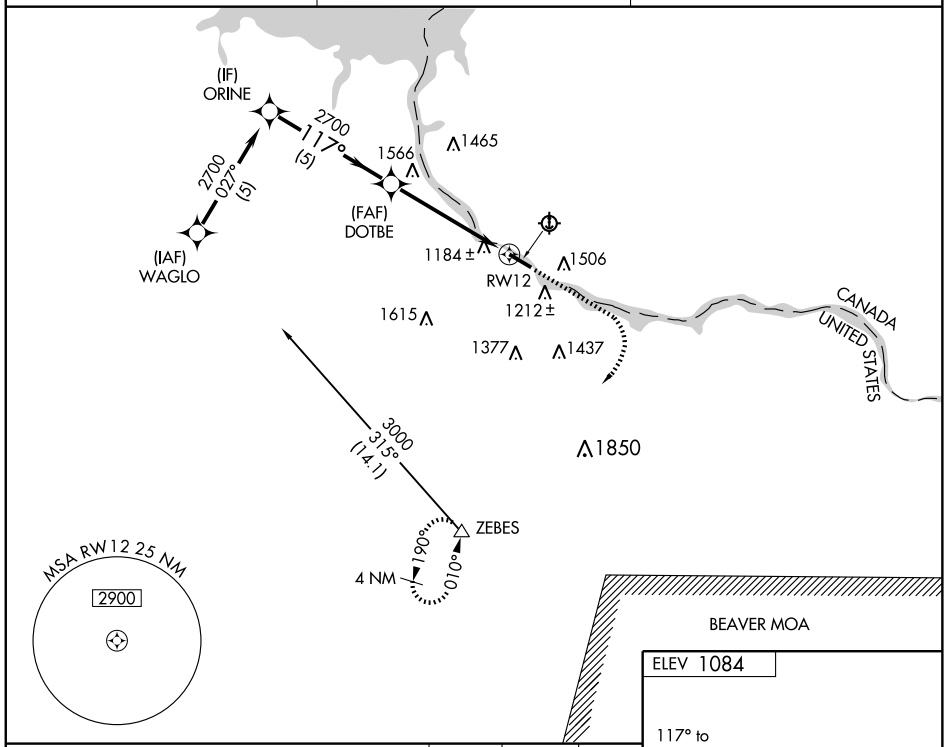
RNAV (GPS) RWY 12
BAUDETTE INTL (BDE)

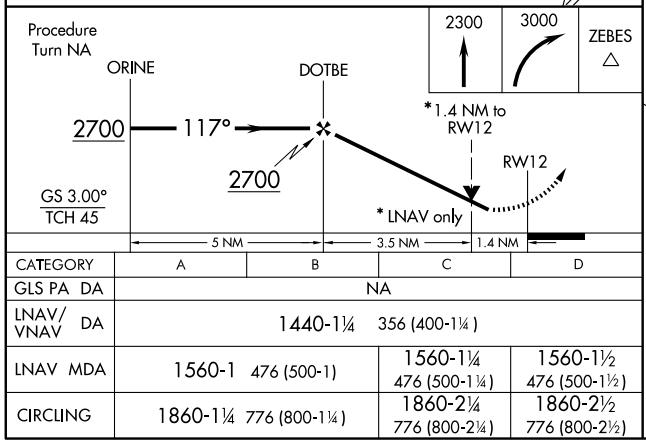
T A NA W

Baro-VNAV NA below -17°C (2°F).
GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

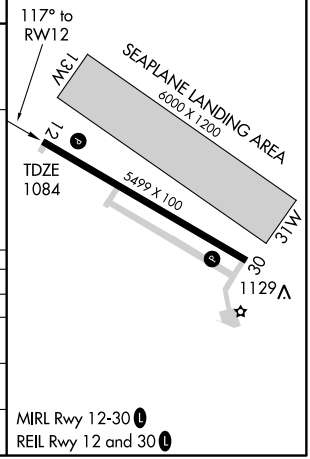
MISSED APPROACH: Climb to 2300 then climbing right turn to 3000 direct ZEBES WP and hold.

ASOS	PRINCETON RADIO	UNICOM
126.775	122.4	122.8 (CTAF) L





CATEGORY	A	B	C	D
GLS PA DA	NA			
LNAV/VNAV DA	1440-1¼ 356 (400-1¼)			
LNAV MDA	1560-1 476 (500-1)		1560-1¼ 476 (500-1¼)	1560-1½ 476 (500-1½)
CIRCLING	1860-1¼ 776 (800-1¼)		1860-2¼ 776 (800-2¼)	1860-2½ 776 (800-2½)



MIRL Rwy 12-30 L
REIL Rwy 12 and 30 L

NC-1. 08 APR 2010 to 06 MAY 2010

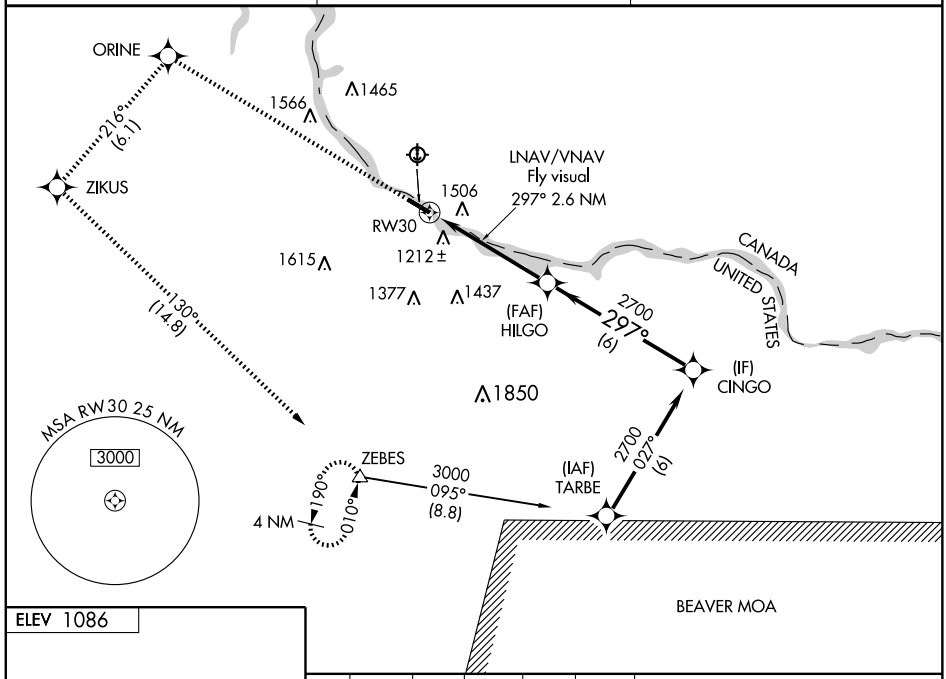
WAAS CH **81814** **W30A**	APP CRS **297°**	Rwy ldg **5499** TDZE **1085** Apt Elev **1086**

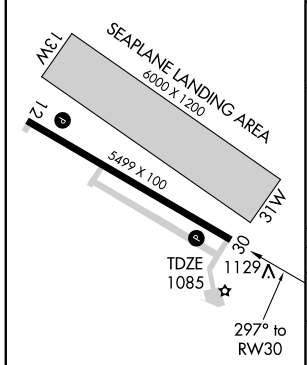
RNAV (GPS) RWY 30
BAUDETTE INTL (BDE)

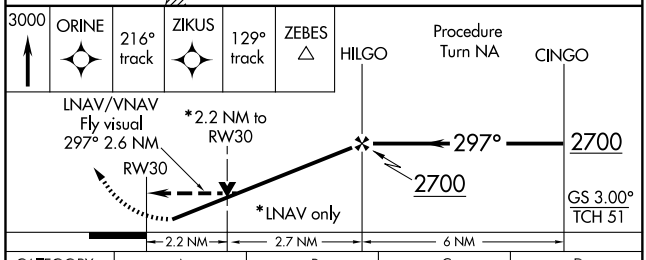
Circling NA northeast of Rwy 12-30.
DME/DME RNP- 0.3 NA.
If local altimeter setting not received, use Warroad altimeter setting and increase all DAs/MDAs 80 feet.
Baro-VNAV NA below -17°C (2F°).
Baro-VNAV and VDP NA when using Warroad altimeter setting.

MISSED APPROACH: Climb to 3000 direct ORINE and via 216° track to ZIKUS and via 129° track to ZEBES and hold.

ASOS	PRINCETON RADIO	UNICOM
126.775	**122.4**	**122.8** (CTAF) L







CATEGORY		A	B	C	D
LPV	DA	1360-1 275 (300-1)			
LNAV/VNAV	DA	1960-2 875 (900-2)		1960-2½ 875 (900-2½)	1960-2¾ 875 (900-2¾)
LNAV	MDA	1820-1 735 (800-1)		1820-2 735 (800-2)	1820-2¼ 735 (800-2¼)
CIRCLING		1960-3 874 (900-3)			

MIRL Rwy 12-30 L
REIL Rwy 12 and 30 L

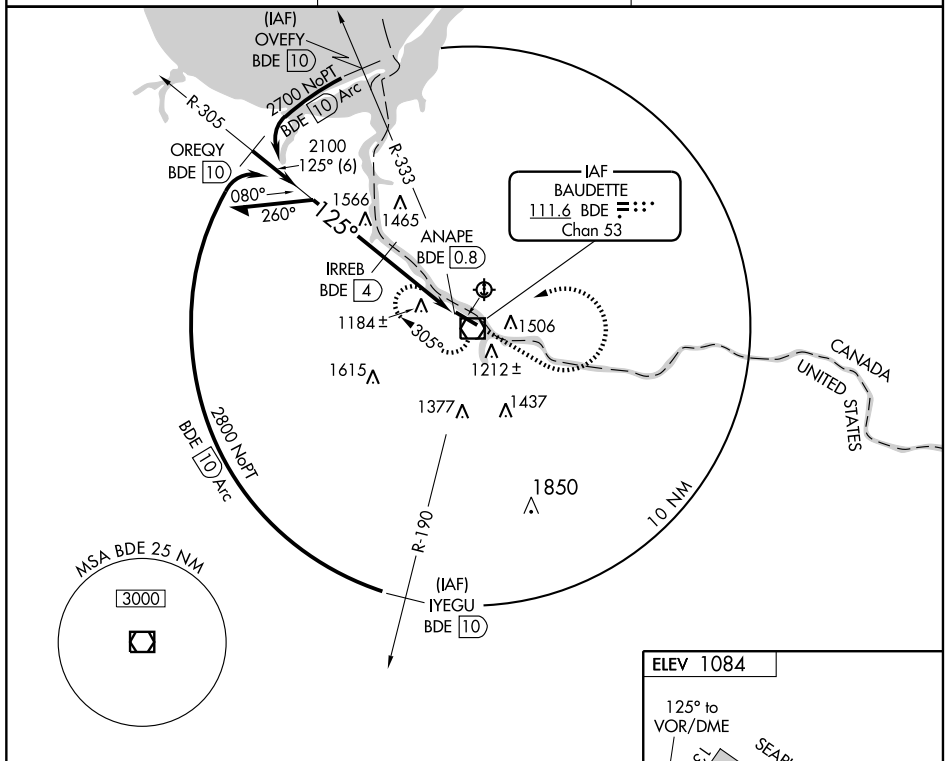
NC-1. 08 APR 2010 to 06 MAY 2010

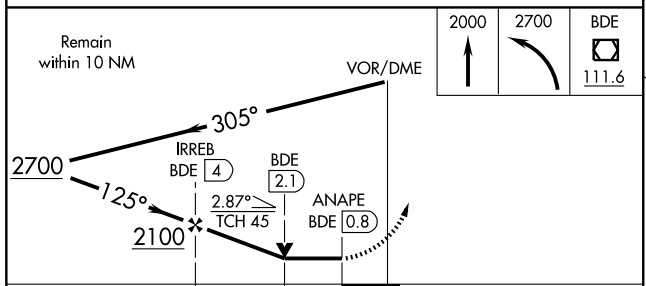
VOR/DME BDE	APP CRS	Rwy ldg	5499
111.6	125°	TDZE	1084
Chan 53		Apt Elev	1084

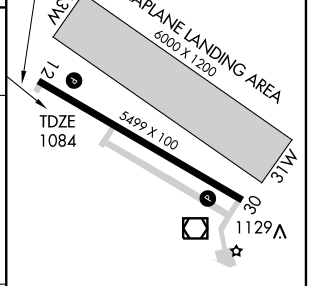
VOR/DME RWY 12
BAUDETTE INTL (BDE)

MISSED APPROACH: Climb to 2000 then climbing left turn to 2700 direct BDE VOR/DME and hold.

ASOS	PRINCETON RADIO	UNICOM
126.775	122.4	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-12	1540-1 456 (500-1)		1540-1¼ 456 (500-1¼)	1540-1½ 456 (500-1½)
CIRCLING	1860-1 776 (800-1)	1860-1¼ 776 (800-1¼)	1860-2¼ 776 (800-2¼)	1860-2½ 776 (800-2½)

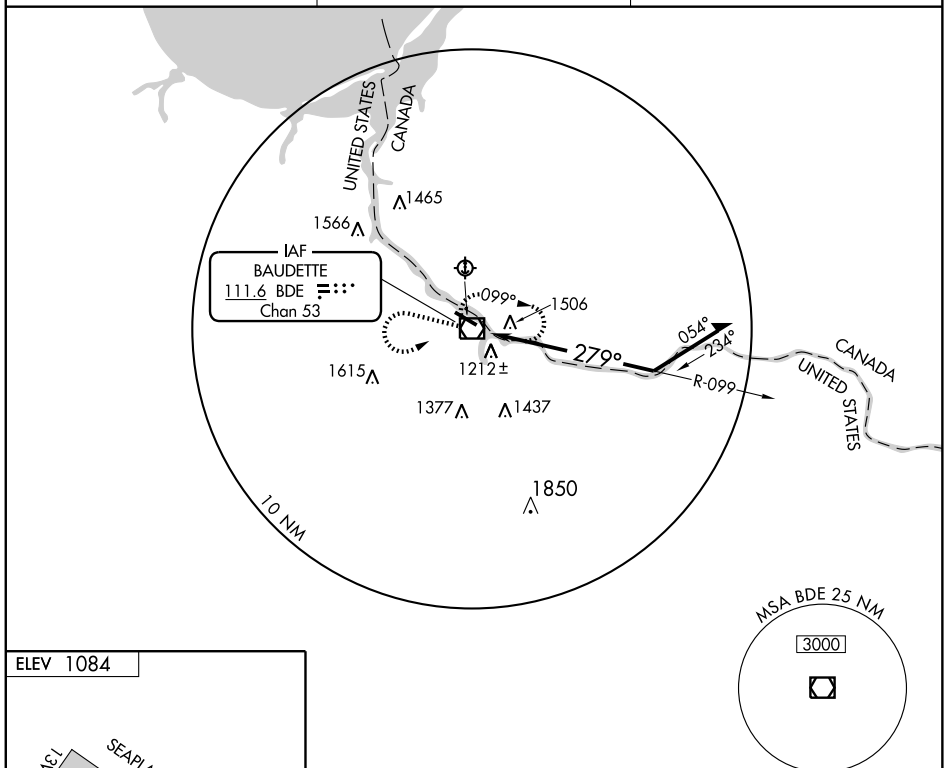
MIRL Rwy 12-30 L
REIL Rwy 12 and 30 L

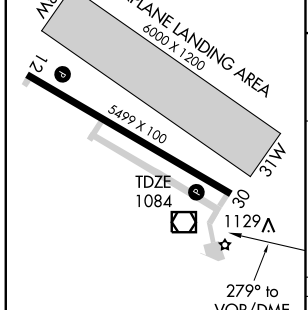
VOR/DME BDE	APP CRS	Rwy ldg	5499
111.6	279°	TDZE	1084
Chan 53		Apt Elev	1084

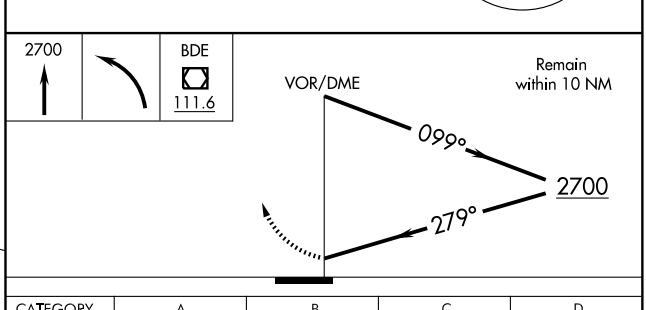
VOR RWY 30
BAUDETTE INTL (BDE)

MISSED APPROACH: Climb to 2700 then left turn direct BDE VOR/DME and hold.

ASOS	PRINCETON RADIO	UNICOM
126.775	122.4	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-30	1860-1 776 (800-1)	1860-1¼ 776 (800-1¼)	1860-2¼ 776 (800-2¼)	1860-2½ 776 (800-2½)
CIRCLING	1860-1 776 (800-1)	1860-1¼ 776 (800-1¼)	1860-2¼ 776 (800-2¼)	1860-2½ 776 (800-2½)

MIRL Rwy 12-30 L
REIL Rwy 12 and 30 L

NC-1. 08 APR 2010 to 06 MAY 2010

ILS or LOC/DME RWY 25

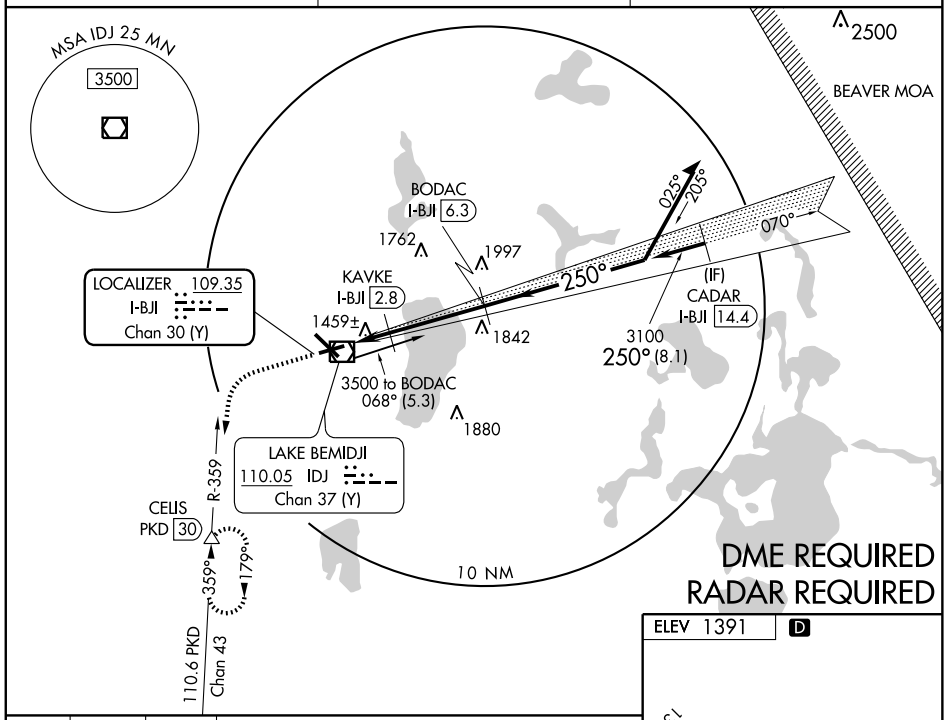
BEMIDJI RGNL (BJI)

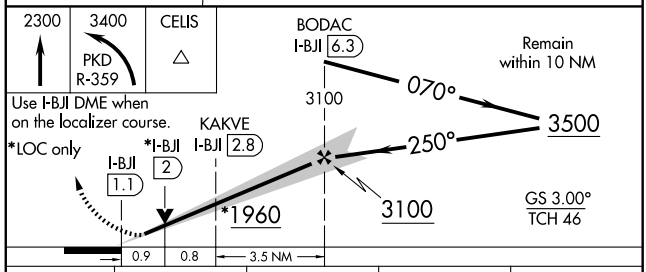
LOC/DME I-BJI	APP CRS	Rwy ldg	5700
109.35	250°	TDZE	1389
Chan 30 (Y)		Apt Elev	1391

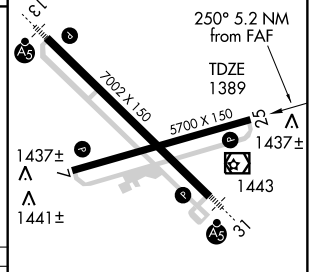
T A NA Visibility reduction by helicopters NA. When local altimeter setting not received, use Park Rapids altimeter setting and increase DA 93 feet and all MDA 100 feet, increase S-ILS 25 all Cats visibility and S-LOC 25 Cat C visibility ¼ mile, S-LOC 25 Cat D visibility ½ mile. VDP NA with Park Rapids altimeter setting.

MISSED APPROACH: Climb to 2300 then climbing left turn to 3400 via PKD VOR/DME R-359 to CELIS/PKD 30 DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
119.275	134.75 251.1	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-ILS 25	1589-¾ 200 (200-¾)			
S-LOC 25	1720-1 331 (400-1)			
CIRCLING	1840-1 449 (500-1)	1860-1 469 (500-1)	1860-1½ 469 (500-1½)	1960-2 569 (600-2)

HIRL Rwy 13-31 L
MIRL Rwy 7-25 L
REIL Rwys 7, 25, and 31 L

NC-1. 08 APR 2010 to 06 MAY 2010

ILS or LOC RWY 31
BEMIDJI RGNL (BJI)

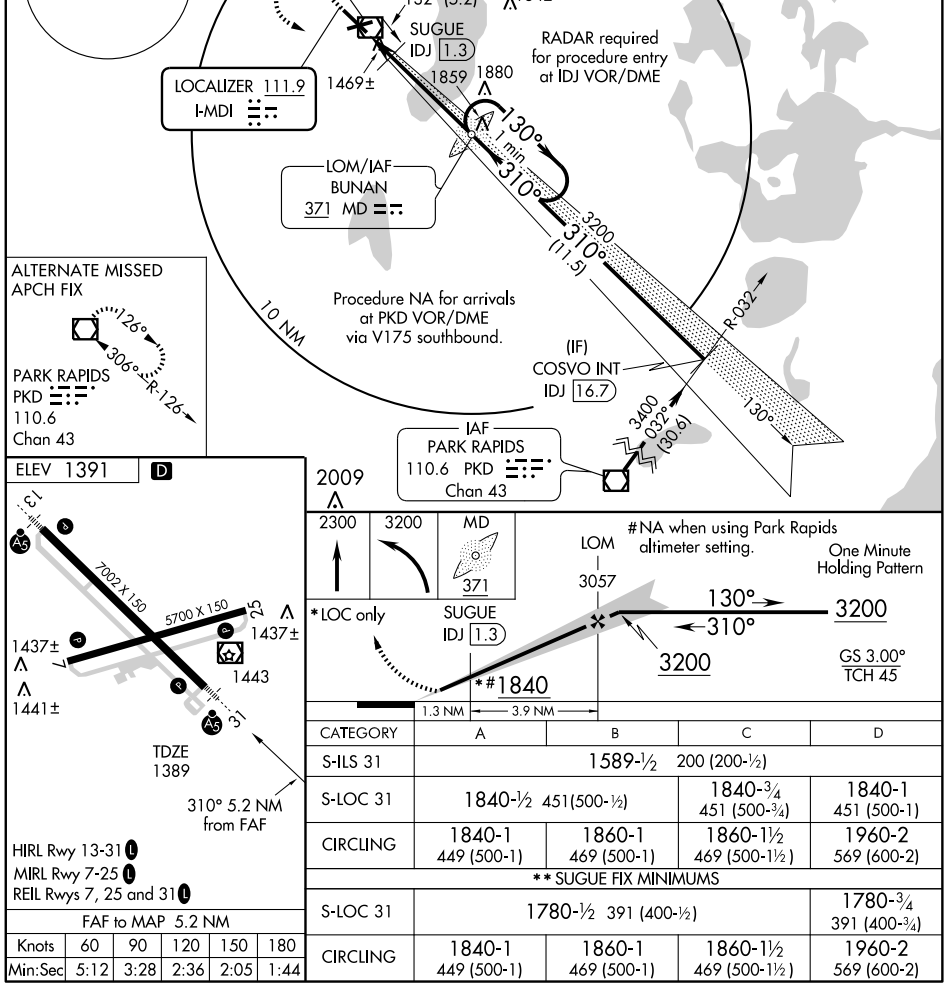
LOC I-MDI	APP CRS	Rwy ldg	7002
111.9	310°	TDZE	1389
		Apt Elev	1391

T A NA — ADF required. Autopilot coupled approach NA below 2093. When local altimeter setting not received, use Park Rapids altimeter setting and increase DA 93 feet and all MDA 100 feet, increase S-LOC 31 Cat C/D visibility ¼ mile. For inoperative MALSR when using Park Rapids altimeter setting, increase S-ILS 31 all Cats visibility to 1 mile. SUGUE Fix minimums NA when using Park Rapids altimeter setting. **DME from IDJ VOR/DME.

MALSR A5

MISSED APPROACH: Climb to 2300 then climbing left turn to 3200 direct BUNAN LOM and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
119.275	134.75 251.1	122.8 (CTAF) L



HIRL Rwy 13-31 L
MIRL Rwy 7-25 L
REIL Rwys 7, 25 and 31 L

FAF to MAP 5.2 NM					
Knots	60	90	120	150	180
Min:Sec	5:12	3:28	2:36	2:05	1:44

CATEGORY	A	B	C	D
S-ILS 31	1589-½ 200 (200-½)			
S-LOC 31	1840-½ 451(500-½)		1840-¾ 451 (500-¾)	1840-1 451 (500-1)
CIRCLING	1840-1 449 (500-1)	1860-1 469 (500-1)	1860-1½ 469 (500-1½)	1960-2 569 (600-2)
** SUGUE FIX MINIMUMS				
S-LOC 31	1780-½ 391 (400-½)			1780-¾ 391 (400-¾)
CIRCLING	1840-1 449 (500-1)	1860-1 469 (500-1)	1860-1½ 469 (500-1½)	1960-2 569 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	7002
130°	TDZE	1391
	Apt Elev	1391

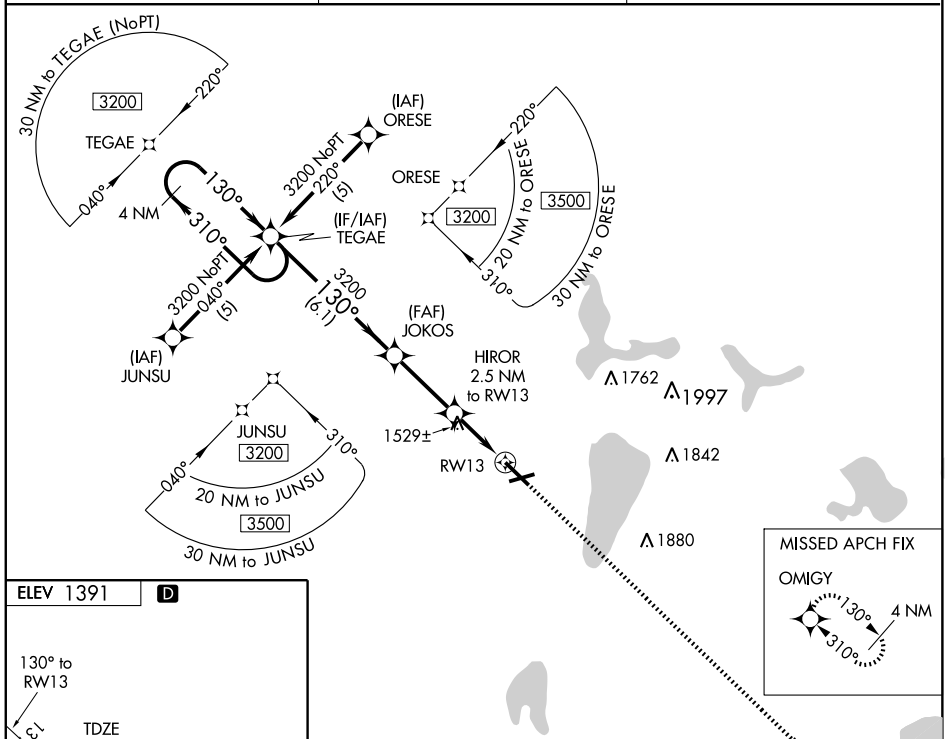
RNAV (GPS) RWY 13
BEMIDJI RGNL (BJI)

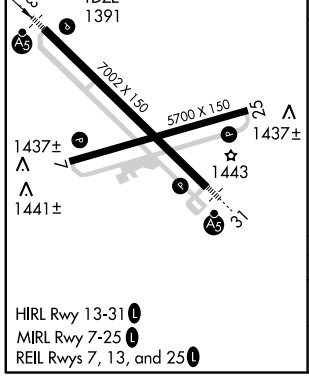
For inoperative MALSR, increase LNAV Cats A/B/C visibility to 1 mile, Cat D visibility to 1¼ mile. DME/DME RNP -0.3 NA. Visibility reduction by helicopters NA. VDP NA when using Park Rapids altimeter setting. When local altimeter setting not received, use Park Rapids altimeter setting, and increase all MDA 100 feet. For inoperative MALSR when using Park Rapids altimeter setting, increase LNAV Cats A/B visibilities to 1 mile.

MALSR A5

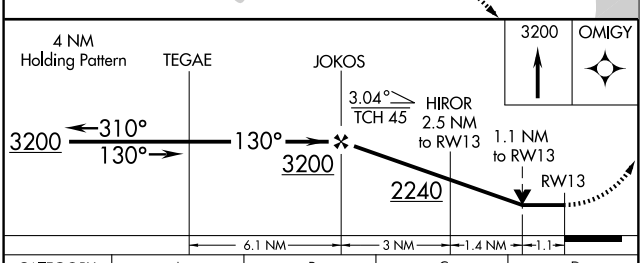
MISSED APPROACH: Climb to 3200 direct OMIGY and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
119.275	134.75 251.1	122.8 (CTAF) L





HIRL Rwy 13-31 L
MIRL Rwy 7-25 L
REIL Rwys 7, 13, and 25 L



CATEGORY	A	B	C	D
LNAV MDA	1780-¾ 389 (400-¾)			1780-1 389 (400-1)
CIRCLING	1840-1 449 (500-1)	1860-1 469 (500-1)	1860-1½ 469 (500-1½)	1960-2 569 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 99711 W31A	APP CRS 310°	Rwy ldg 7002 TDZE 1389 Apt Elev 1391

RNAV (GPS) RWY 31

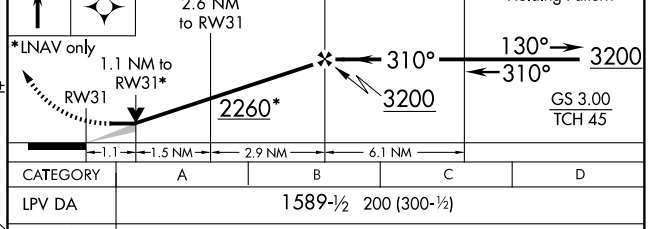
BEMIDJI RGNL (BJI)

For inoperative MALSR, increase LNAV Cat D visibility to 1¼ mile. Baro-VNAV NA when using Park Rapids altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP -0.3 NA. VDP NA when using Park Rapids altimeter setting. When local altimeter setting not received, use Park Rapids altimeter setting and increase all DA 93 feet and all MDA 100 feet; increase LNAV/VNAV all Cats visibility ½ mile and LNAV Cat C visibility ¼ mile. For inoperative MALSR when using Park Rapids altimeter setting, increase LPV visibility to 1 mile all Cats.

MALSR

MISSED APPROACH: Climb to 3200 direct TEGAE and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
119.275	134.75 251.1	122.8 (CTAF) L



CATEGORY	A	B	C	D
LPV DA	1589-½ 200 (300-½)			
LNAV/VNAV DA	1825-1 436 (500-1)			
LNAV MDA	1780-½ 391 (400-½)			1780-1 391 (400-1)
CIRCLING	1840-1 449 (500-1)	1860-1 469 (500-1)	1860-1½ 469 (500-1½)	1960-2 569 (600-2)

HIRL Rwy 13-31 L
MIRL Rwy 7-25 L
REIL Rwys 7, 13, and 25 L

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME RWY 13

BEMIDJI RGNL (BJI)

VOR/DME IDJ	APP CRS	Rwy ldg	7002
110.05	123°	TDZE	1391
Chan 37 (Y)		Apt Elev	1391

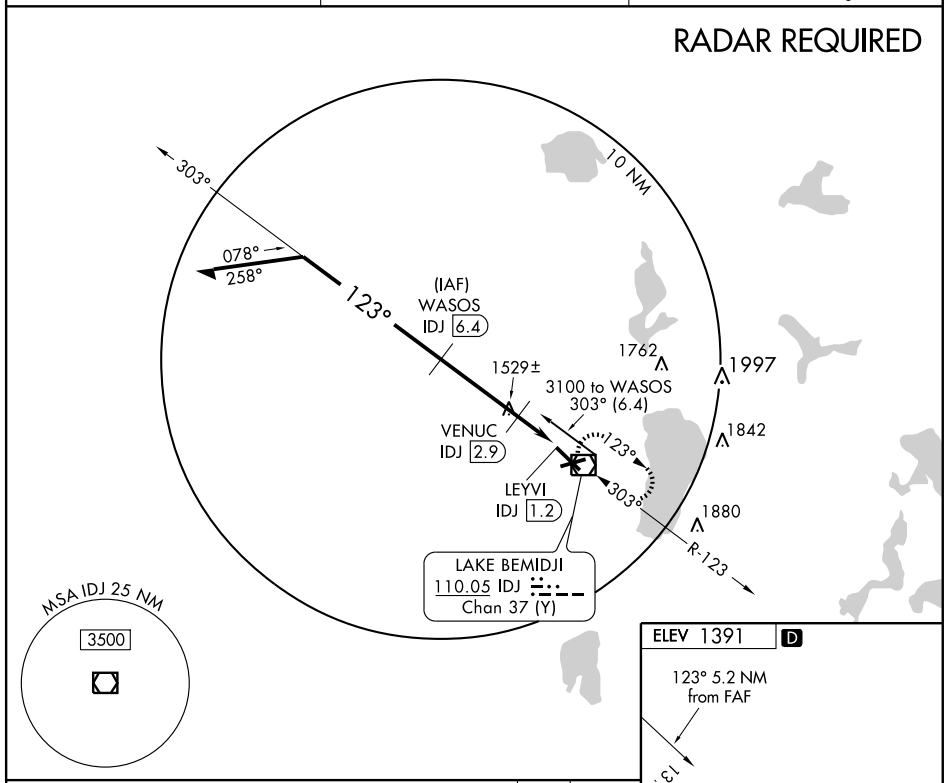
T A NA When local altimeter setting not received, use Park Rapids altimeter setting and increase all MDA 100 feet. VDP NA with Park Rapids altimeter setting. For inoperative MALSR increase S-13 Cats A, B and C visibility to 1 mile and Cat D visibility to 1¼ mile. For inoperative MALSR when using Park Rapids altimeter setting, increase S-13 Cats A and B visibility to 1 mile.

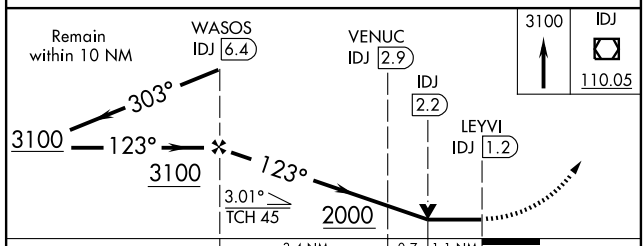
MALSR A5

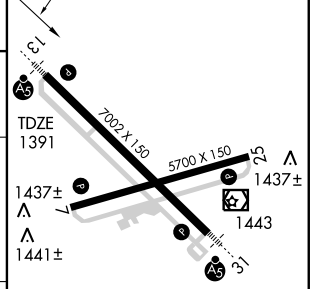
MISSED APPROACH: Climb to 3100 direct IDJ VOR/DME and hold, continue to climb-in-hold to 3100.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
119.275	134.75 251.1	122.8 (CTAF) L

RADAR REQUIRED







CATEGORY	A	B	C	D
S-13	1780-¾ 389 (400- ¾)			1780-1 389 (400-1)
CIRCLING	1840-1 449 (500-1)	1860-1 469 (500-1)	1860-1½ 469 (500-1½)	1960-2 569 (600-2)

HIRL Rwy 13-31 L
MIRL Rwy 7-25 L
REIL Rwys 7, 13, and 25 L

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME RWY 31

BEMIDJI RGNL (BJI)

VOR/DME IDJ	APP CRS	Rwy ldg 7002
110.05	328°	TDZE 1389
Chan 37 (Y)		Apt Elev 1391

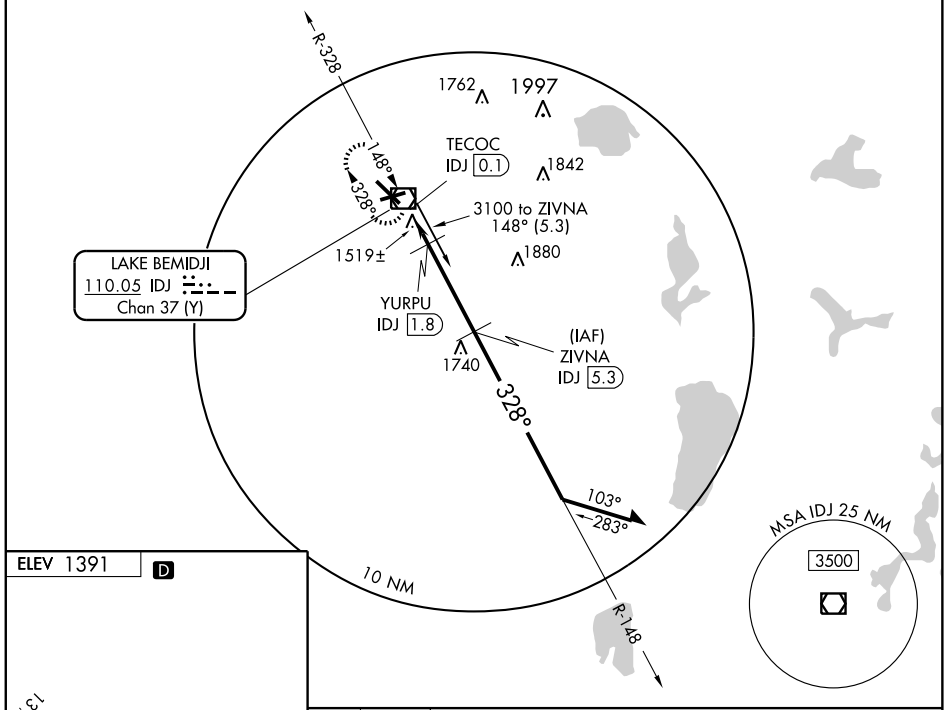
When local altimeter setting not received, use Park Rapids altimeter setting and increase all MDA 100 feet, increase S-31 Cat C visibility ¼ mile. VDP NA with Park Rapids altimeter setting. For inoperative MALSR, increase S-31 Cat D visibility to 1¼ mile.

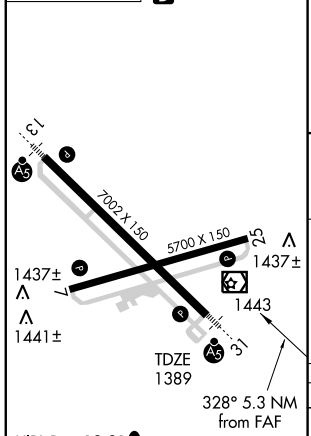
MALSR

MISSED APPROACH: Climb to 3100 direct IDJ VOR/DME and hold, continue climb-in-hold to 3100.

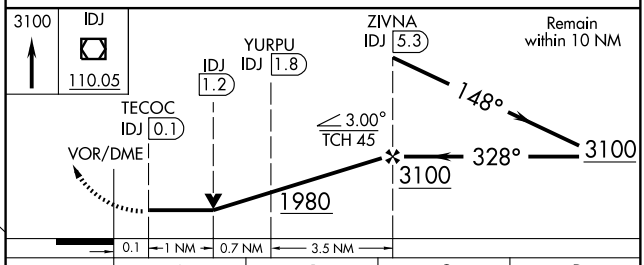
AWOS-3	MINNEAPOLIS CENTER	UNICOM
119.275	134.75 251.1	122.8 (CTAF) L

RADAR REQUIRED





HIRL Rwy 13-31 L
MIRL Rwy 7-25 L
REIL Rwys 7, 13, and 25 L



CATEGORY	A	B	C	D
S-31	1780-½ 391 (400-½)			1780-1 391 (400-1)
CIRCLING	1840-1 449 (500-1)	1860-1 469 (500-1)	1860-1½ 469 (500-1½)	1960-2 569 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

NDB BBB 239	APP CRS 148°	Rwy ldg 4000 TDZE 1039 Apt Elev 1039

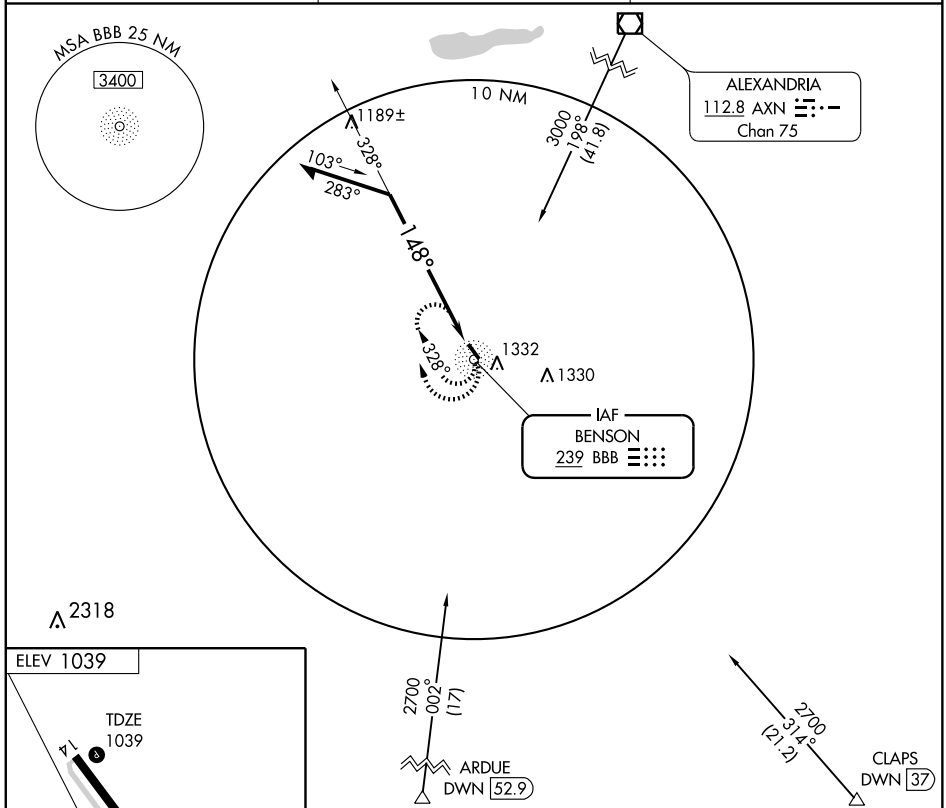
NDB RWY 14
BENSON MUNI (BBB)

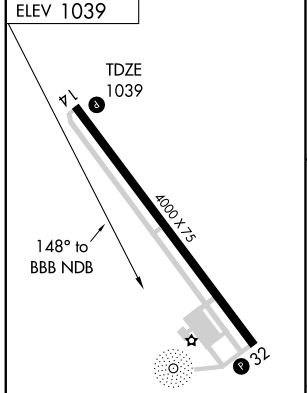
T NA

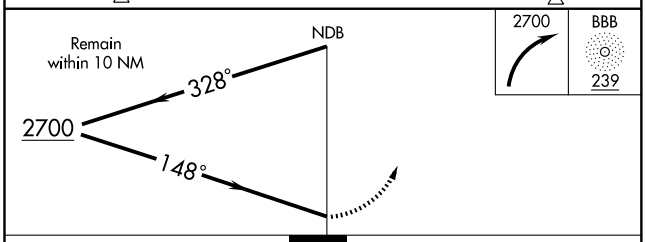
If local altimeter setting not recieved, use Appleton altimeter setting and increase all MDAs 40 feet.

MISSED APPROACH: Climbing right turn to 2700 in BBB NDB holding pattern.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
239	125.5 323.1	122.8 (CTAF) L







REIL Rwys 14 and 32 L
MIRL Rwy 14-32 L

CATEGORY	A	B	C	D
S-14	1700-1	661 (700-1)	NA	
CIRCLING	1740-1	701 (800-1)	NA	

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 49210 W14A	APP CRS 138°	Rwy ldg 4000 TDZE 1039 Apt Elev 1039

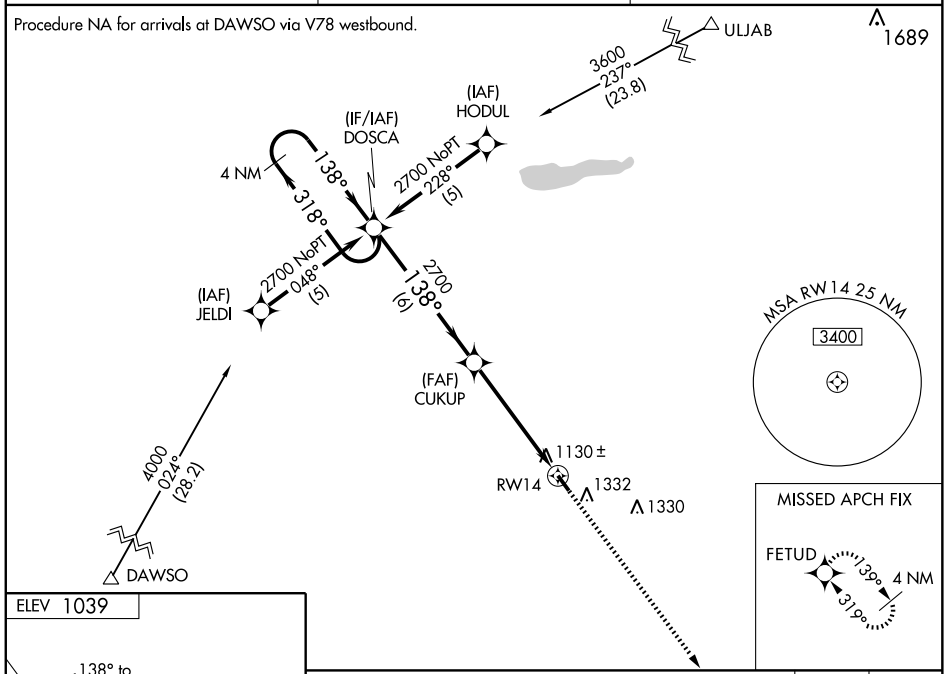
RNAV (GPS) RWY 14
BENSON MUNI (BBB)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 54°C (130°F).
DME/DME RNP -0.3 NA.
Baro-VNAV and VDP NA when using Appleton altimeter setting.
When local altimeter setting not received, use Appleton altimeter setting and increase all DA and MDA 40 feet, increase Circling Cat B visibility ¼ mile.

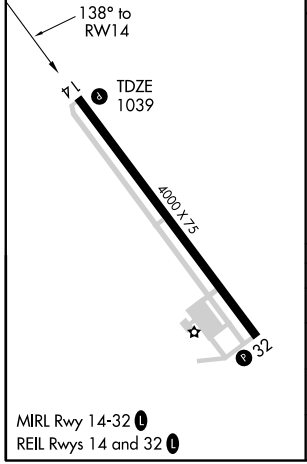
MISSED APPROACH: Climb to 2700 direct FETUD and hold.

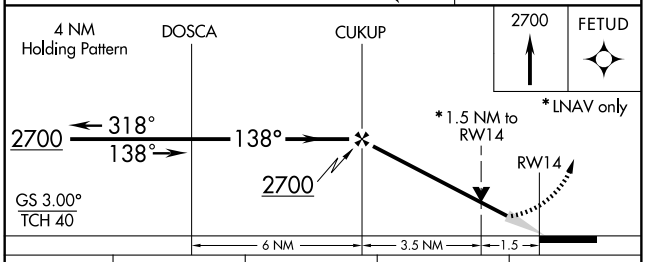
AWOS-3	MINNEAPOLIS CENTER	UNICOM
239	125.5 323.1	122.8 (CTAF) L

Procedure NA for arrivals at DAWSO via V78 westbound.



ELEV 1039





CATEGORY	A	B	C	D
LPV DA	1382-1¼ 343 (400-1¼)		NA	
LNAV/VNAV DA	1426-1½ 387 (400-1½)		NA	
LNAV MDA	1540-1 501 (600-1)		NA	
CIRCLING	1740-1 701 (800-1)		NA	

NC-1. 08 APR 2010 to 06 MAY 2010

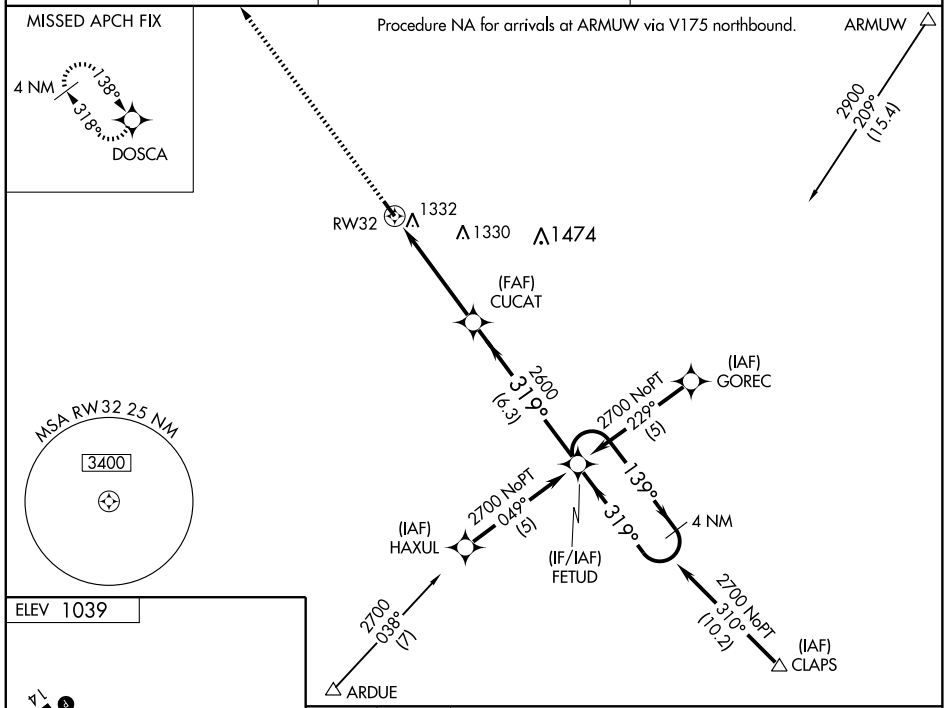
WAAS CH 99710 W32A	APP CRS 319°	Rwy ldg 4000 TDZE 1039 Apt Elev 1039

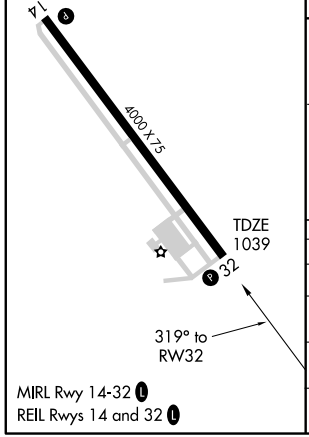
RNAV (GPS) RWY 32
BENSON MUNI (BBB)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 54°C (130°F).
DME/DME RNP- 0.3 NA. Visibility reduction by helicopters NA.
Baro-VNAV NA when using Appleton altimeter setting.
When local altimeter setting not received, use Appleton altimeter setting and increase all DA and MDA 40 feet, increase Circling Cat B visibility ¼ mile.

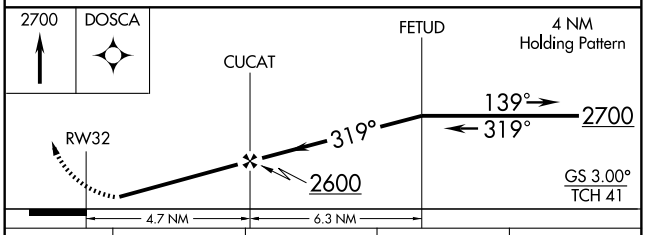
MISSED APPROACH: Climb to 2700 direct DOSCA and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
239	125.5 323.1	122.8 (CTAF) L





MIRL Rwy 14-32 L
REIL Rwys 14 and 32 L



CATEGORY	A	B	C	D
LPV DA	1426-1½ 387 (400-1½)		NA	
LNAV/VNAV DA	1710-2½ 671 (700-2½)		NA	
LNAV MDA	1700-1 661 (700-1)		NA	
CIRCLING	1740-1 701 (800-1)		NA	

NC-1. 08 APR 2010 to 06 MAY 2010

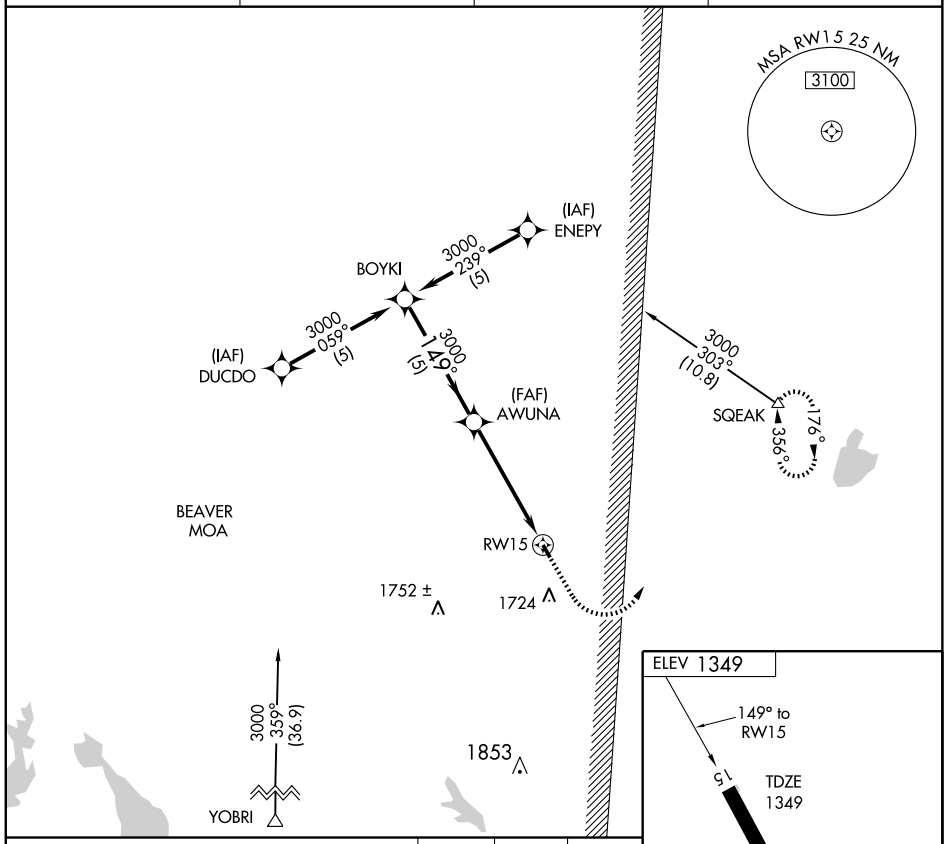
APP CRS		
149°	Rwy ldg	3100
	TDZE	1349
	Apt Elev	1349

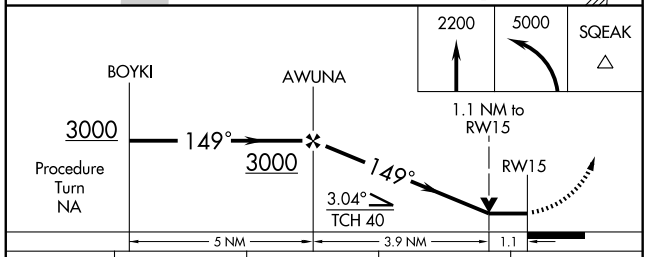
GPS RWY 15
BIGFORK MUNI (FOZ)

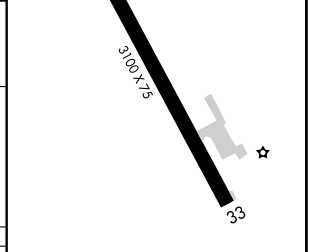
NA

MISSED APPROACH: Climb to 2200 then climbing left turn to 5000 direct SQEAK and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	CTAF
345	127.9 281.45	121.725	122.9 L







CATEGORY	A	B	C	D
S-15	1740-1	391 (400-1)	NA	
CIRCLING	1780-1 431 (500-1)	1800-1 451 (500-1)	NA	

MIRL Rwy 15-33 L

NC-1. 08 APR 2010 to 06 MAY 2010

NDB FOZ	APP CRS	Rwy ldg	3100
345	160°	TDZE	1346
		Apt Elev	1348

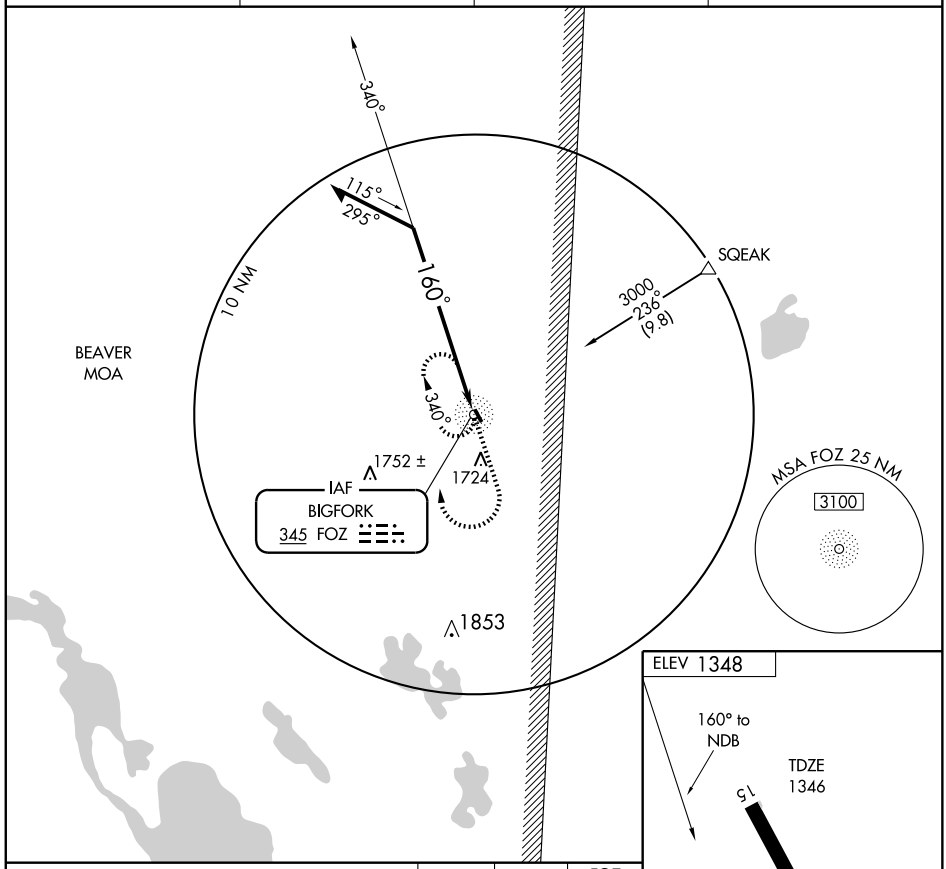
NDB RWY 15
BIGFORK MUNI (FOZ)

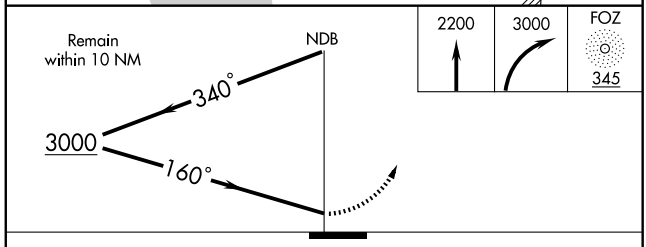
Procedure not authorized when BEAVER MOA is active.

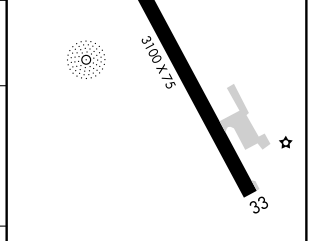
NA

MISSED APPROACH: Climb to 2200 then climbing right turn to 3000 direct FOZ NDB and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	CTAF
345	127.9 281.45	121.725	122.9 L







MIRL Rwy 15-33 L

CATEGORY	A	B	C	D
S-15	1840-1	494 (500-1)	NA	
CIRCLING	1840-1	494 (500-1)	NA	

NDB SBU 332	APP CRS 330°	Rwy ldg 3399 TDZE 1107 Apt Elev 1107

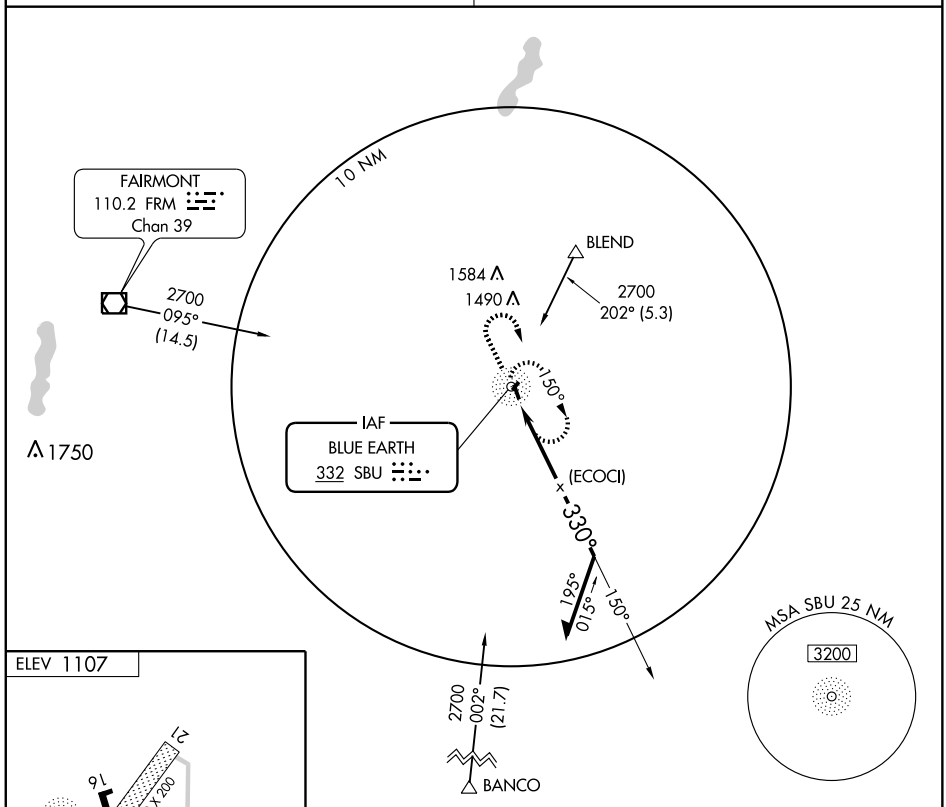
NDB or GPS RWY 34

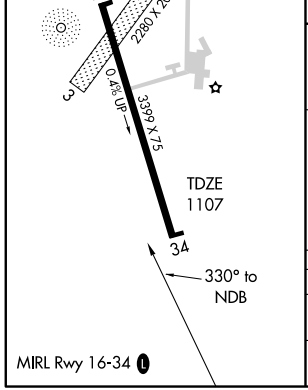
BLUE EARTH MUNI (SBU)

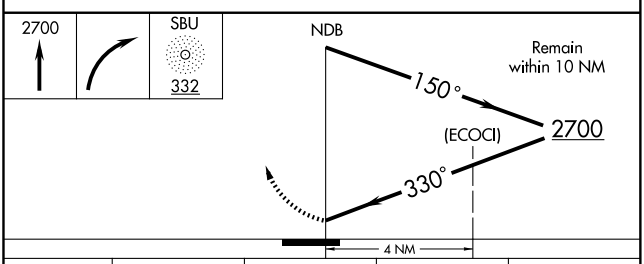
NA Use Fairmont altimeter setting.

MISSED APPROACH: Climb to 2700 then right turn direct SBU NDB and hold.

MINNEAPOLIS CENTER	UNICOM
127.75 257.7	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-34	1700-1	593 (600-1)	1700-1½ 593 (600-1½)	NA
CIRCLING	1700-1	593 (600-1)	1700-1½ 593 (600-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-BRD	APP CRS	Rwy ldg	6514
109.9	231°	TDZE	1224
		Apt Elev	1232

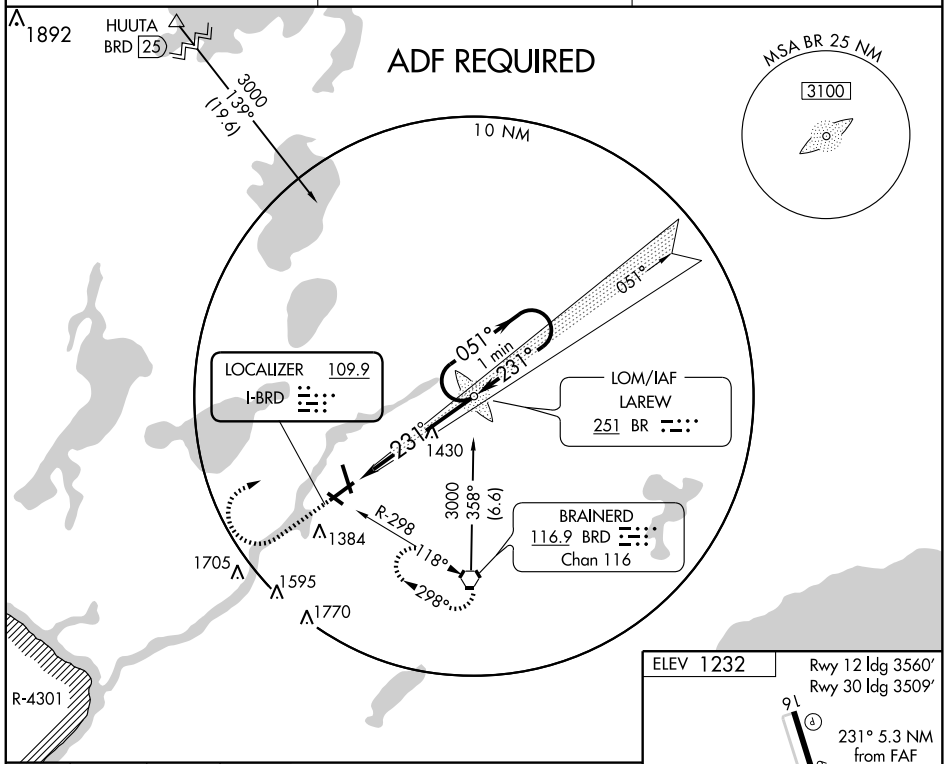
ILS or LOC RWY 23
BRAINERD LAKES RGNL (BRD)

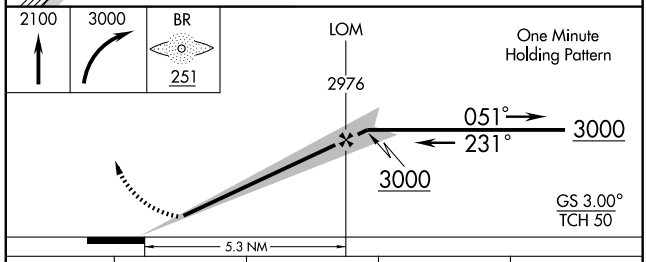
If local altimeter setting not received, use Aitkin Muni-Steve Kurtz Field altimeter setting and increase all DAs 52 feet, all MDAs 60 feet.

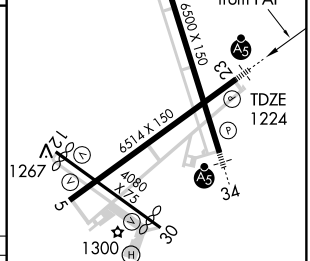
MALSR

MISSED APPROACH: Climb to 2100 then climbing right turn to 3000 direct LAREW LOM and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
126.775	118.05 239.0	122.7 (CTAF) L







HIRL Rwy 5-23 and 16-34 L
MIRL Rwy 12-30 L
REIL Rwys 5, 16, and 30 L

CATEGORY	A	B	C	D
S-ILS 23	1424-½ 200 (200-½)			
S-LOC 23	1680-½ 456 (500-½)		1680-¾ 456 (500-¾)	1680-1 456 (500-1)
CIRCLING	1760-1 528 (600-1)		1760-1½ 528 (600-1½)	1800-2 568 (600-2)

FAF to MAP 5.3 NM					
Knots	60	90	120	150	180
Min:Sec	5:18	3:32	2:39	2:07	1:46

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-LER 109.7	APP CRS 340°	Rwy ldg 6500 TDZE 1232 Apt Elev 1232

ILS or LOC RWY 34
BRAINERD LAKES RGNL (BRD)

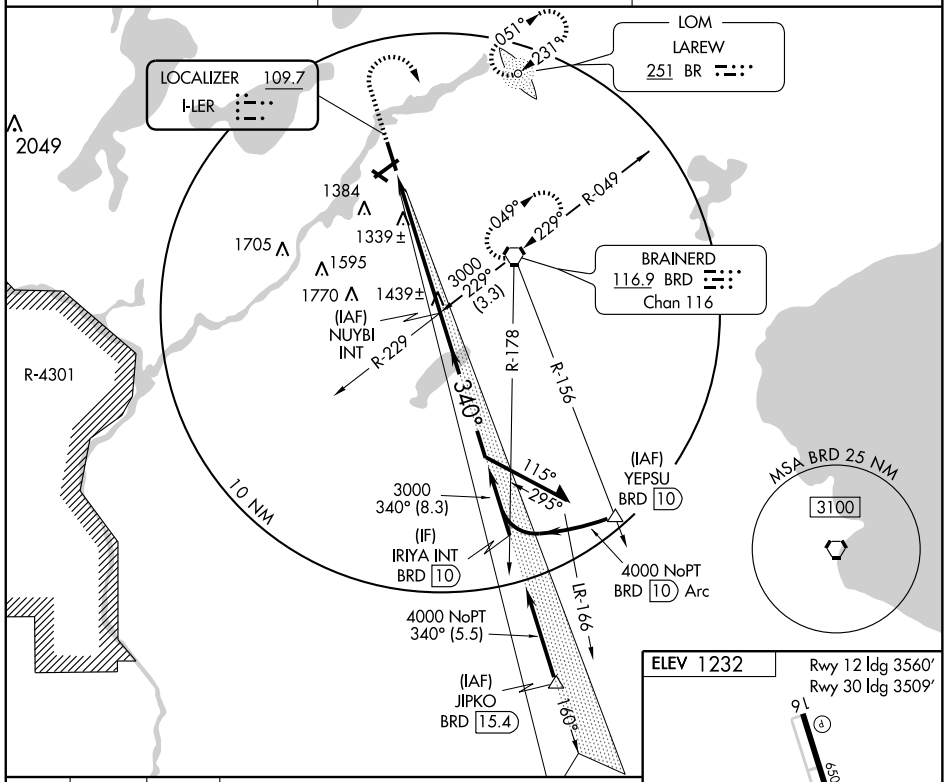
If local altimeter setting not received, use Aitkin altimeter setting and increase DA 52 feet and increase all MDAs 60 feet.

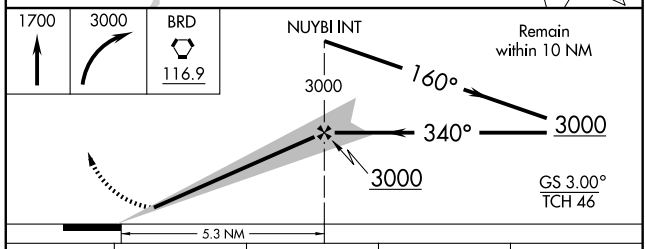
NA

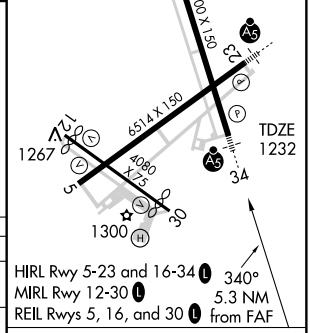
MALSR

MISSED APPROACH: Climb to 1700 then climbing right turn to 3000 direct BRD VORTAC and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
126.775	118.05 239.0	122.7 (CTAF) L







HIRL Rwy 5-23 and 16-34 L
MIRL Rwy 12-30 L
REIL Rwys 5, 16, and 30 L

CATEGORY	A	B	C	D
S-ILS 34	1432-½ 200 (200-½)			
S-LOC 34	1600-½ 368 (400-½)			1600-¾ 368 (400-¾)
CIRCLING	1760-1 528 (600-1)		1760-1½ 528 (600-1½)	1800-2 568 (600-2)

FAF to MAP 5.3 NM

Knots	60	90	120	150	180
Min:Sec	5:18	3:32	2:39	2:07	1:46

LOM BR	APP CRS	Rwy ldg	6514
251	231°	TDZE	1224
		Apt Elev	1232

NDB RWY 23

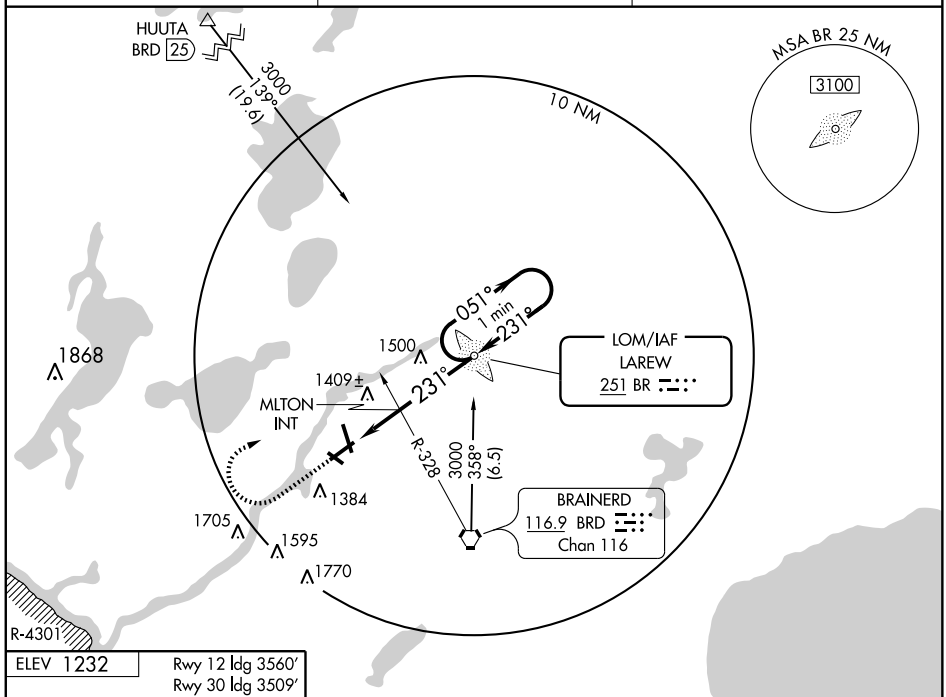
BRAINERD LAKES RGNL (BRD)

NA — If local altimeter setting not received, use Aitkin Muni-Steve Kurtz Field altimeter setting and increase all MDAs 60 feet.

MALSR

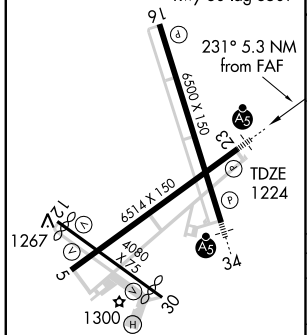
MISSED APPROACH: Climb to 3000 then right turn direct BR LOM and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
126.775	118.05 239.0	122.7 (CTAF)



ELEV 1232

Rwy 12 ldg 3560′
Rwy 30 ldg 3509′

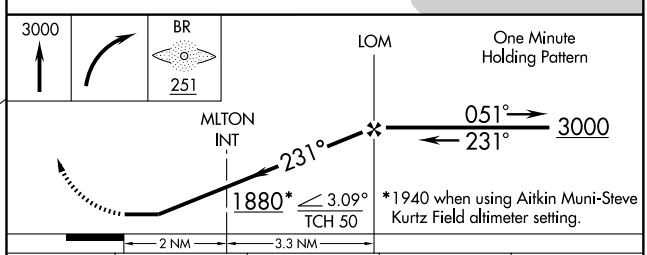


HIRL Rwy 5-23 and 16-34

MIRL Rwy 12-30

REIL Rwys 5, 16, and 30

FAF to MAP 5.3 NM					
Knots	60	90	120	150	180
Min:Sec	5:18	3:32	2:39	2:07	1:46



CATEGORY	A	B	C	D
S- 23	1880-¾ 656 (700-¾)		1880-1¼ 656 (700-1¼)	1880-1¾ 656 (700-1¾)
CIRCLING	1880-1 648 (700-1)		1880-1¾ 648 (700-1¾)	1880-2 648 (700-2)
MLTON FIX MINIMUMS				
S- 23	1720-¾ 496 (500-¾)			1720-1¼ 496 (500-1¼)
CIRCLING	1760-1 528 (600-1)		1760-1½ 528 (600-1½)	1800-2 568 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

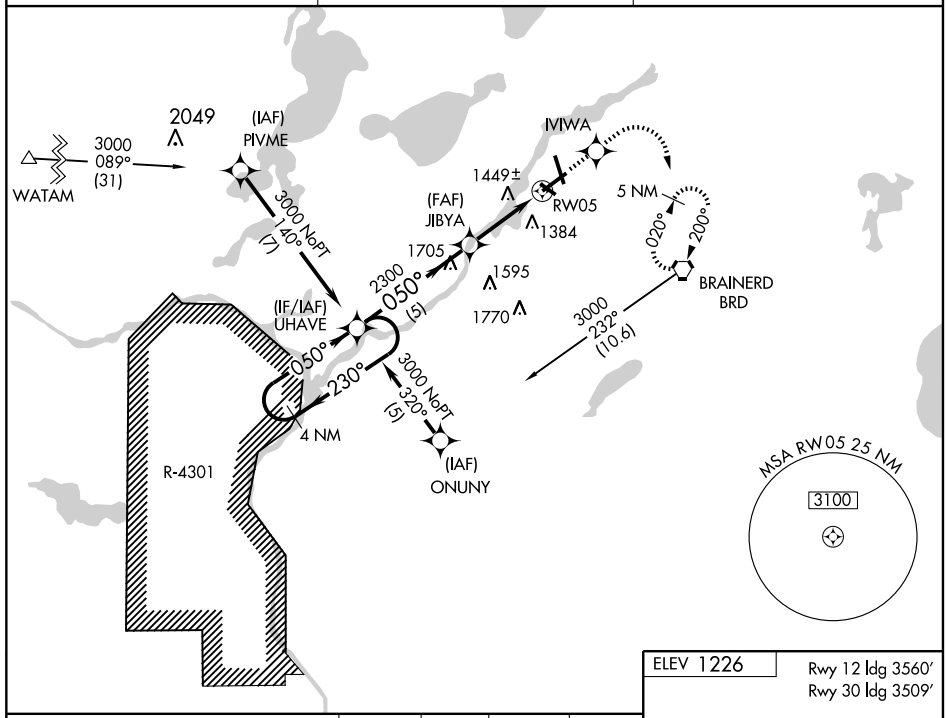
APP CRS	Rwy ldg	6514
050°	TDZE	1223
	Apt Elev	1226

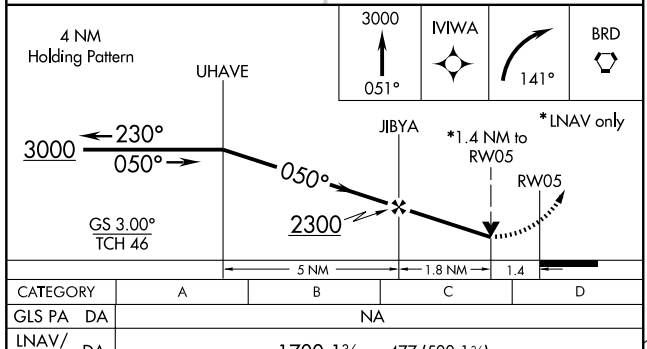
RNAV (GPS) RWY 5
BRAINERD LAKES RGNL (BRD)

Baro-VNAV NA below -17°C (2°F).
NA GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.
Holding in lieu of procedure turn NA when R-4301 is active.

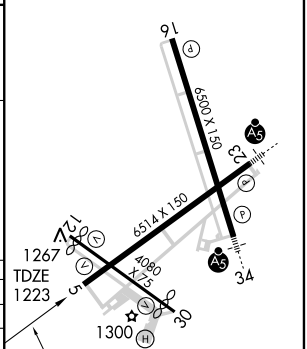
MISSED APPROACH: Climb to 3000 via 051° course to IVIWA WP then right turn via 141° course to BRD VORTAC and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
126.775	118.05 239.0	122.7 (CTAF) L





CATEGORY	A	B	C	D
GLS PA DA	NA			
LNAV/VNAV DA	1700-1¾ 477 (500-1¾)			
LNAV MDA	1700-1 477 (500-1)		1700-1¼ 477 (500-1¼)	1700-1½ 477 (500-1½)
CIRCLING	1760-1¾ 534 (600-1¾)			1780-2 554 (600-2)



HIRL Rwy 5-23 and 16-34 L
MIRL Rwy 12-30 L
REIL Rwys 5, 16, and 30 L

NC-1. 08 APR 2010 to 06 MAY 2010

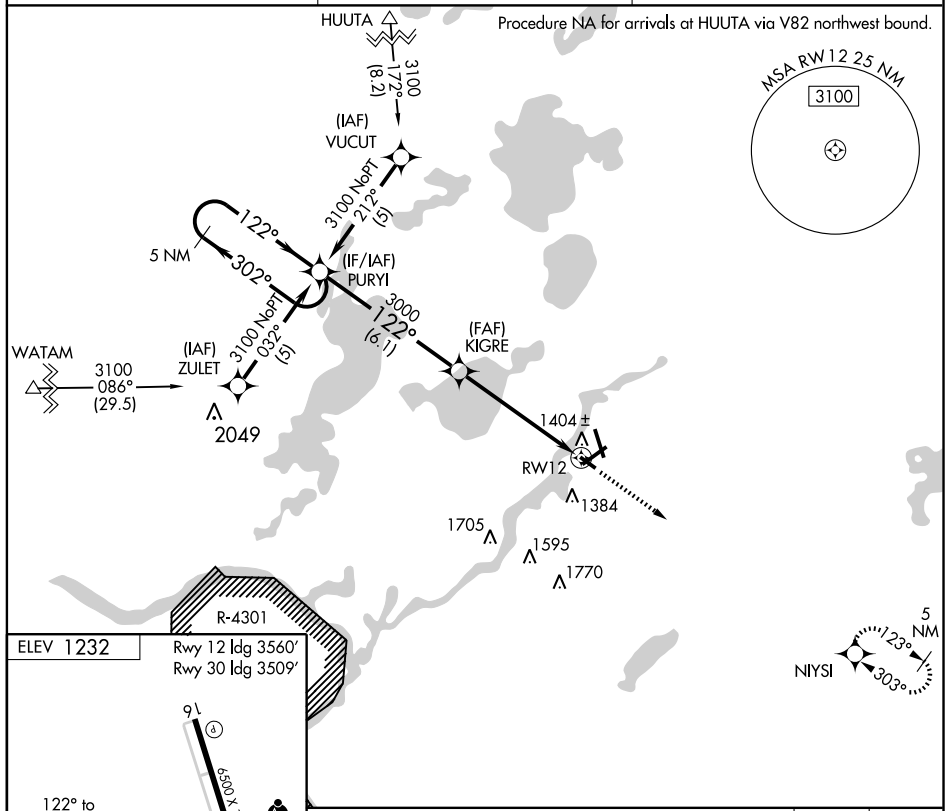
APP CRS	Rwy ldg	3560
122°	TDZE	1225
	Apt Elev	1232

RNAV (GPS) RWY 12
BRAINERD LAKES RGNL (BRD)

If local altimeter setting not received, use Aitkin Muni-Steve Kurtz Field altimeter setting and increase all MDAs 60 feet.
DME/DME RNP-0.3 NA.
Visibility reduction by helicopters NA.

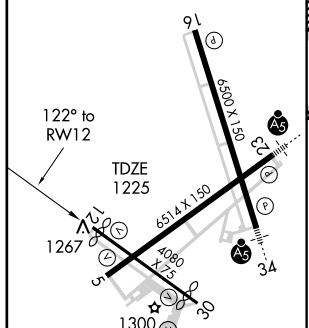
MISSED APPROACH: Climb to 3300 direct NIYSI and hold.

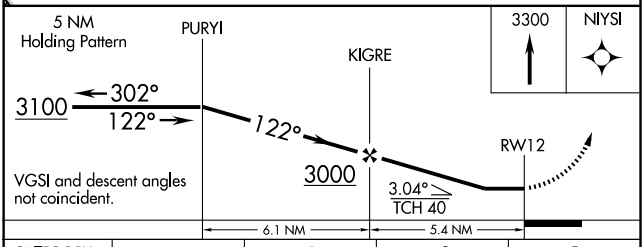
ASOS	MINNEAPOLIS CENTER	UNICOM
126.775	118.05 239.0	122.7 (CTAF) L



ELEV 1232

Rwy 12 ldg 3560′
Rwy 30 ldg 3509′





CATEGORY	A	B	C	D
LNAV MDA	1660-1 435 (500-1)		1660-1¼ 435 (500-1¼)	1660-1½ 435 (500-1½)
CIRCLING	1760-1 528 (600-1)		1760-1½ 528 (600-1½)	1800-2 568 (600-2)

HIRL Rwy 5-23 and 16-34 L
MIRL Rwy 12-30 L
REIL Rwys 5, 16, and 30 L

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 82502 W23A	APP CRS 231°	Rwy ldg 6514 TDZE 1224 Apt Elev 1232

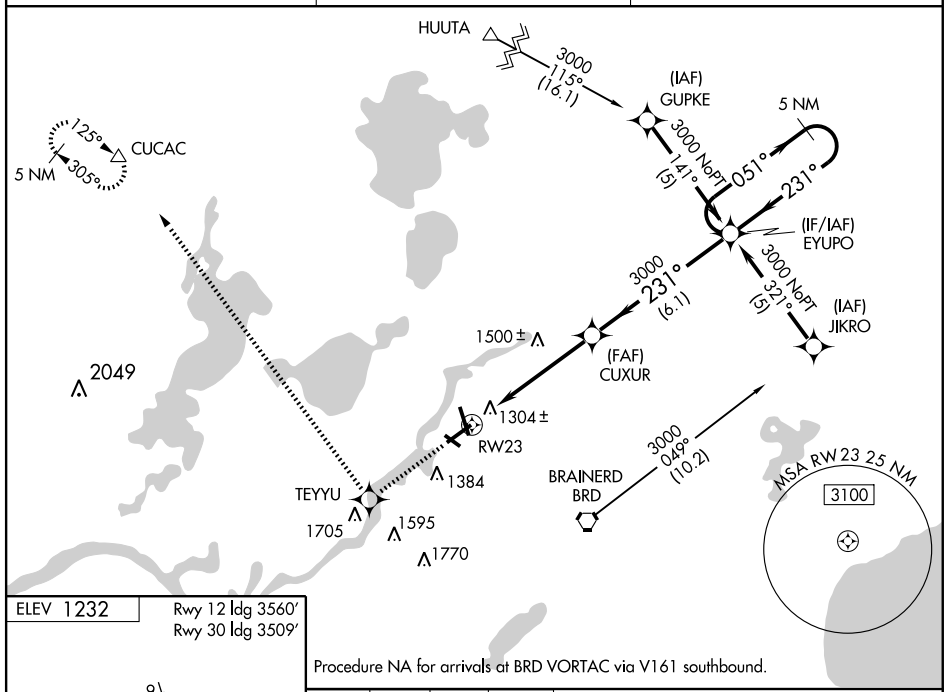
RNAV (GPS) RWY 23
BRAINERD LAKES RGNL (BRD)

For inoperative MALSR, increase LPV all CATS visibility to 1 mile.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP -0.3 NA.
VDP and Baro-VNAV NA when using Aitkin Muni-Steve Kurtz Field altimeter setting.
If local altimeter setting not received, use Aitkin Muni-Steve Kurtz Field altimeter setting and increase all DAs 52 feet and all MDAs 60 feet.

MALSR

MISSED APPROACH: Climb to 3300 direct TEYYU and via 321° track to CUCAC and hold.

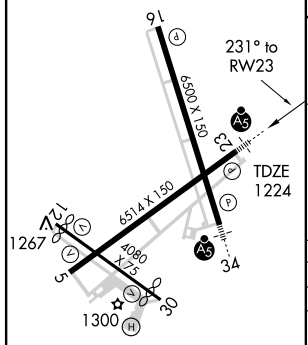
ASOS	MINNEAPOLIS CENTER	UNICOM
126.775	118.05 239.0	122.7 (CTAF) L

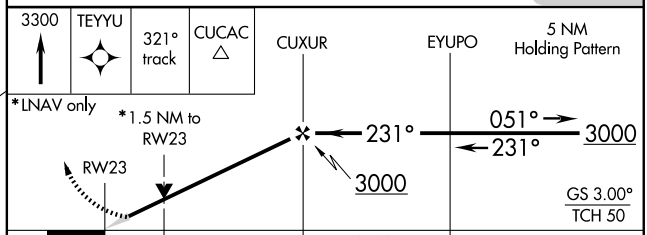


ELEV 1232

Rwy 12 ldg 3560′
Rwy 30 ldg 3509′

Procedure NA for arrivals at BRD VORTAC via V161 southbound.





CATEGORY	A	B	C	D
LPV DA	1501-½ 277 (300-½)			
LNAV/VNAV DA	1573-¾ 349 (400-¾)			
LNAV MDA	1760-½ 536 (600-½)		1760-1 536 (600-1)	1760-1¼ 536 (600-1¼)
CIRCLING	1760-1 528 (600-1)		1760-1½ 528 (600-1½)	1800-2 568 (600-2)

HIRL Rwy 5-23 and 16-34 L
MIRL Rwy 12-30 L
REIL Rwys 5, 16, and 30 L

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	3509
303°	TDZE	1225
	Apt Elev	1232

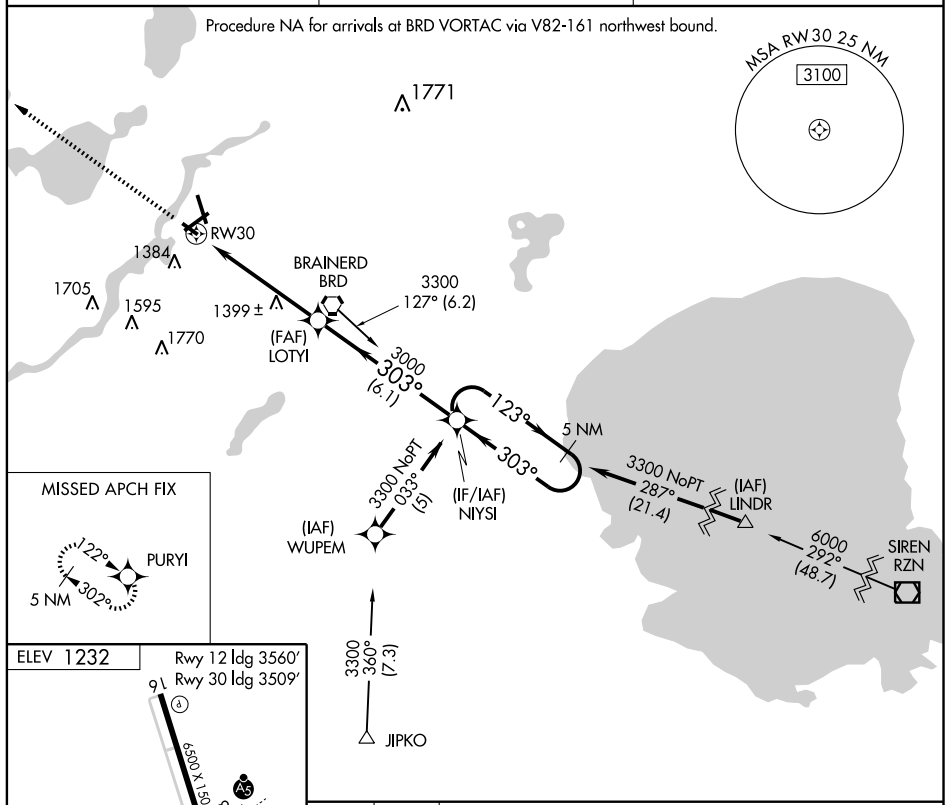
RNAV (GPS) RWY 30
BRAINERD LAKES RGNL (BRD)

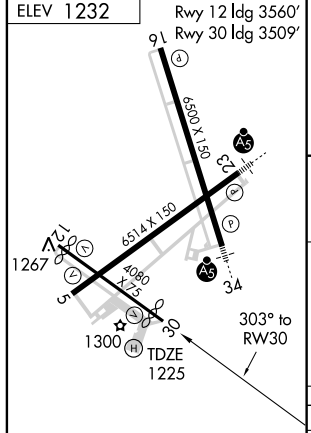
If local altimeter setting not received, use Aitkin Muni-Steve Kurtz Field altimeter setting and increase all MDAs 60 feet.
DME/DME RNP-0.3 NA.
Visibility reduction by helicopters NA.

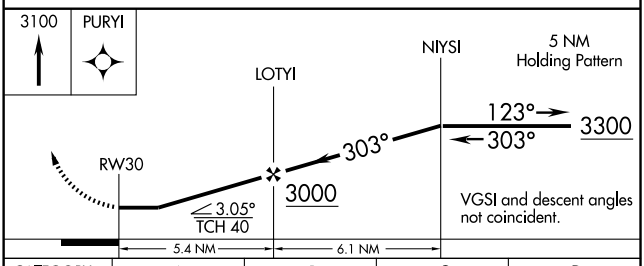
MISSED APPROACH: Climb to 3100 direct PURYI and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
126.775	118.05 239.0	122.7 (CTAF) L

Procedure NA for arrivals at BRD VORTAC via V82-161 northwest bound.







CATEGORY	A	B	C	D
LNAV MDA	1660-1 435 (500-1)		1660-1¼ 435 (500-1¼)	1660-1½ 435 (500-1½)
CIRCLING	1760-1 528 (600-1)		1760-1½ 528 (600-1½)	1800-2 568 (600-2)

HIRL Rwy 5-23 and 16-34 L
MIRL Rwy 12-30 L
REIL Rwys 5, 16, and 30 L

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 70711 W34A	APP CRS 340°	Rwy ldg 6500 TDZE 1232 Apt Elev 1232

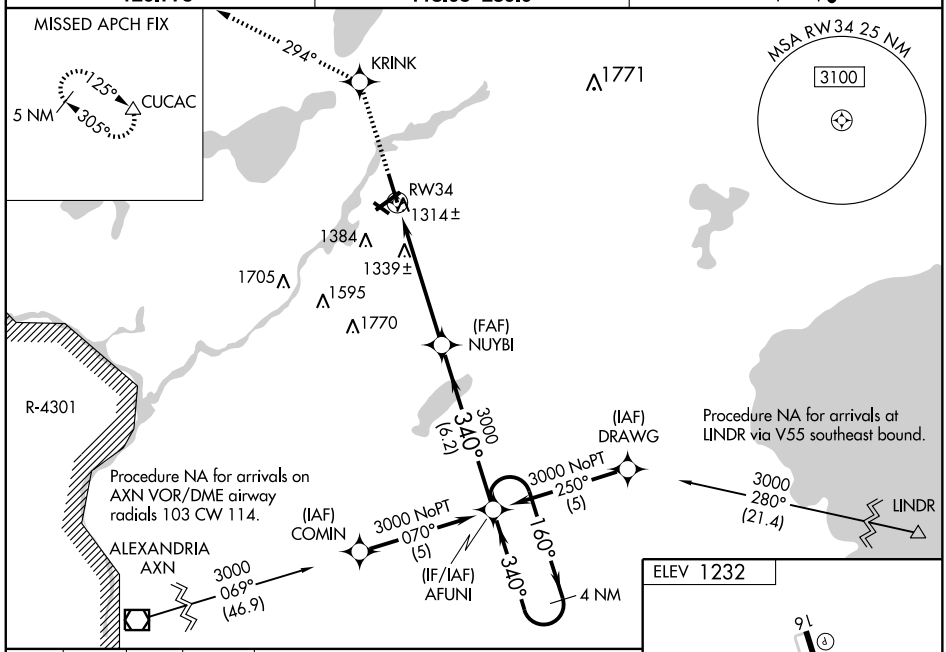
RNAV (GPS) RWY 34
BRAINERD LAKES RGNL (BRD)

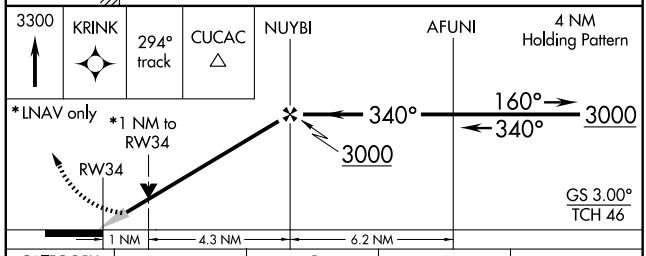
For inoperative MALSR, increase LNAV Cat D visibility to 1¼ mile.
Baro-VNAV NA when using Aitkin altimeter setting.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP-0.3 NA.
When local altimeter setting not received, use Aitkin altimeter setting and increase all DA 52 feet and all MDA 60 feet, increase LNAV/VNAV all Cats and LNAV Cat C and D visibility ¼ mile. VDP NA when using Aitkin altimeter setting.
For inoperative MALSR when using Aitkin altimeter setting, increase LNAV Cat D visibility to 1½ mile.

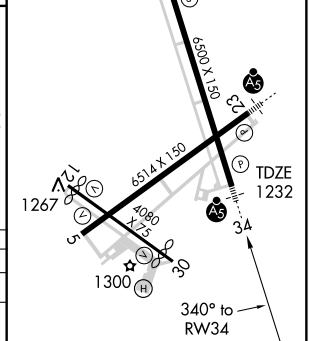
MALSR

MISSED APPROACH: Climb to 3300 direct KRINK and via 294° track to CUCAC and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
126.775	118.05 239.0	122.7 (CTAF) L







CATEGORY	A	B	C	D
LPV DA	1432-½ 200 (200-½)			
LNAV/VNAV DA	1584-¾ 352 (400-¾)			
LNAV MDA	1600-½ 368 (400-½)			1600-1 368 (400-1)
CIRCLING	1760-1 528 (600-1)		1760-1½ 528 (600-1½)	1800-2 568 (600-2)

HIRL Rwys 5-23 and 16-34 L
MIRL Rwy 12-30 L
REIL Rwys 5, 16, and 30 L

NC-1. 08 APR 2010 to 06 MAY 2010

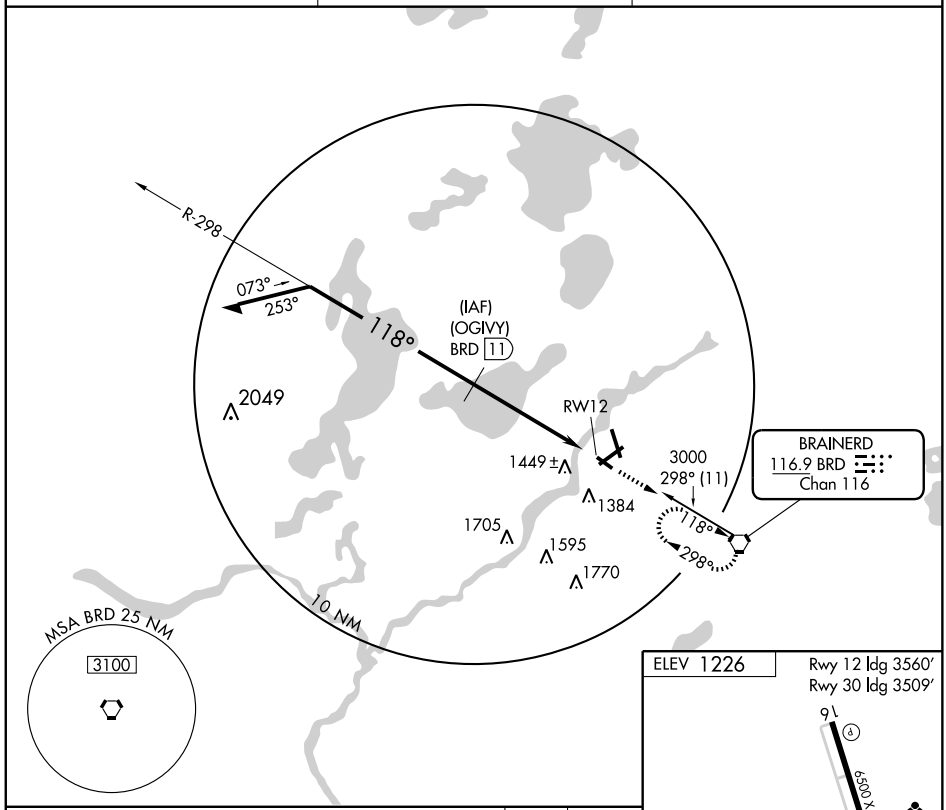
VORTAC BRD	APP CRS	Rwy ldg	3560
116.9	118°	TDZE	1225
Chan 116		Apt Elev	1226

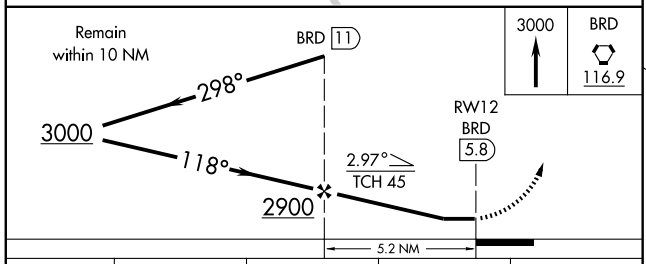
VOR/DME or GPS RWY 12

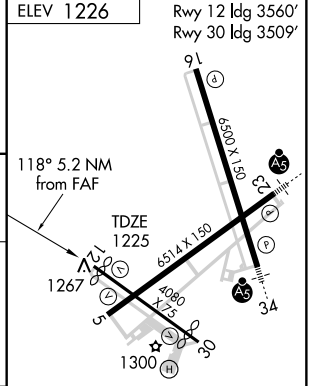
BRAINERD LAKES RGNL (BRD)

MISSED APPROACH: Climb to 3000 direct BRD VORTAC and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
126.775	118.05 239.0	122.7 (CTAF) L







CATEGORY	A	B	C	D
S-12	1700-1 475 (500-1)		1700-1¼ 475 (500-1¼)	1700-1½ 475 (500-1½)
CIRCLING	1760-1 534 (600-1)		1760-1½ 534 (600-1½)	1780-2 554 (600-2)

HIRL Rwy 5-23 and 16-34 L
MIRL Rwy 12-30 L
REIL Rwys 5, 16, and 30 L

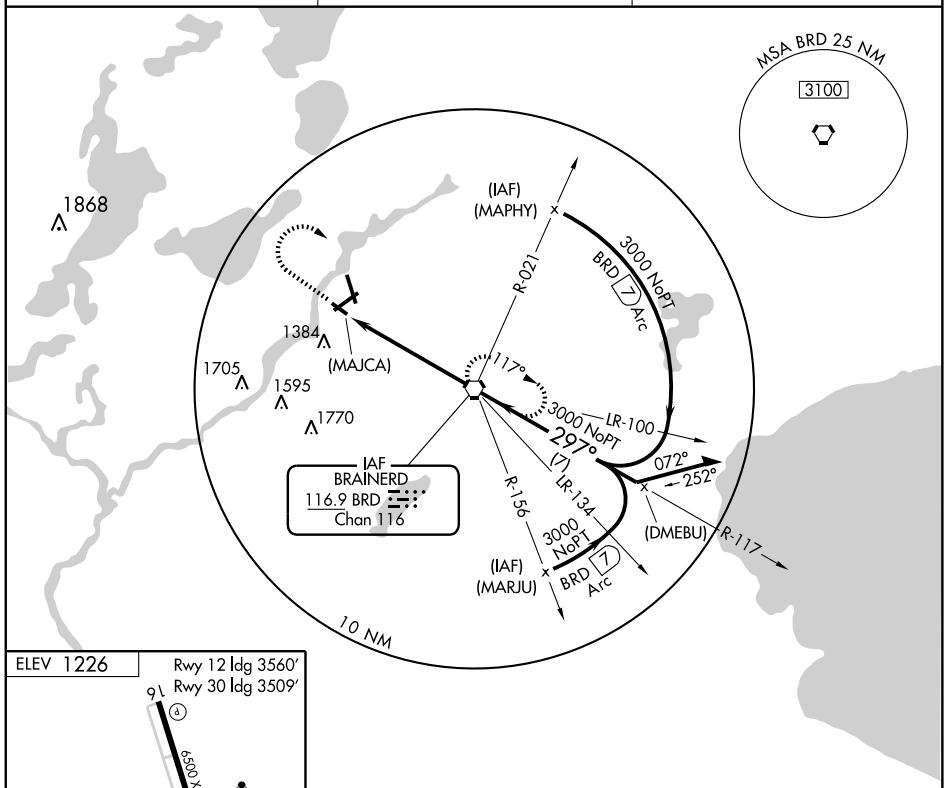
NC-1. 08 APR 2010 to 06 MAY 2010

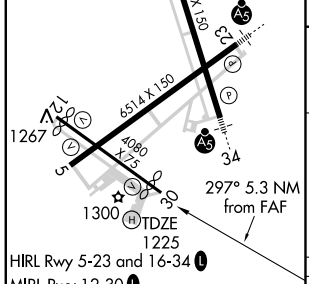
VORTAC BRD 116.9 Chan 116	APP CRS 297°	Rwy ldg 3509 TDZE 1225 Apt Elev 1226

VOR or GPS RWY 30
BRAINERD LAKES RGNL (BRD)

MISSED APPROACH: Climb to 3000 then right turn direct BRD VORTAC and hold.

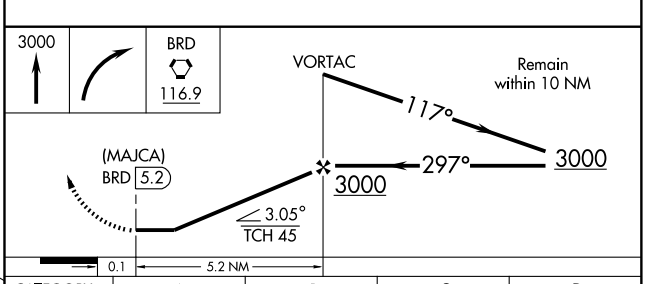
ASOS	MINNEAPOLIS CENTER	UNICOM
126.775	118.05 239.0	122.7 (CTAF) L





HIRL Rwy 5-23 and 16-34 L
MIRL Rwy 12-30 L
REIL Rwys 5, 16, and 30 L

FAF to MAP 5.2 NM					
Knots	60	90	120	150	180
Min:Sec	5:12	3:28	2:36	2:05	1:44



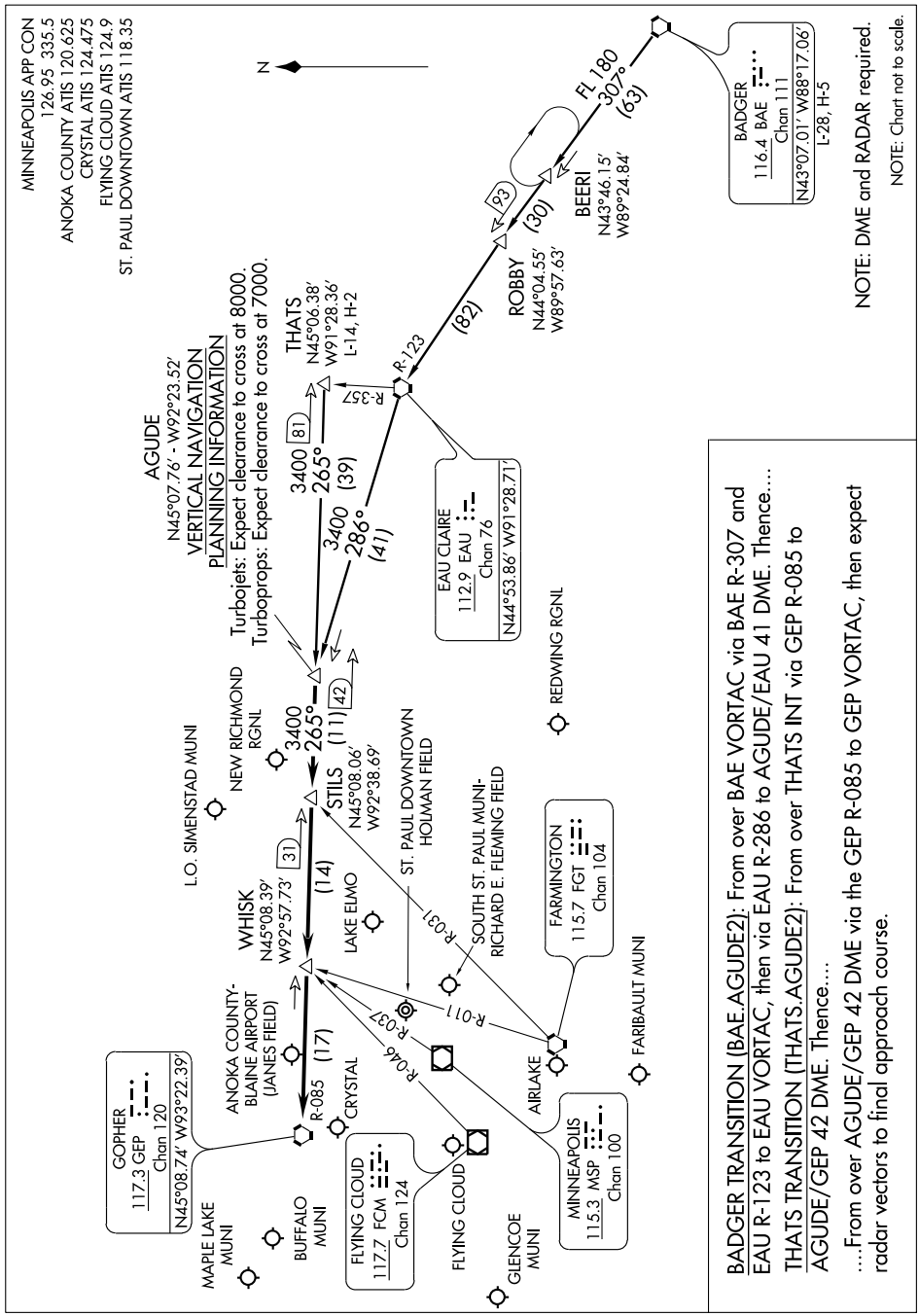
CATEGORY	A	B	C	D
S-30	1660-1 435 (500-1)		1660-1¼ 435 (500-1¼)	1660-1½ 435 (500-1½)
CIRCLING	1760-1 534 (600-1)		1760-1½ 534 (600-1½)	1780-2 554 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

AGUDE TWO ARRIVAL

ST-263 (FAA)

MINNEAPOLIS-ST. PAUL, MINNESOTA



BADGER TRANSITION (BAE.AGUDE2): From over BAE VORTAC via BAE R-307 and EAU R-123 to EAU VORTAC, then via EAU R-286 to AGUDE/EAU 41 DME. Thence....

THATS TRANSITION (THATS.AGUDE2): From over THATS INT via GEP R-085 to AGUDE/GEP 42 DME. Thence....

....From over AGUDE/GEP 42 DME via the GEP R-085 to GEP VORTAC, then expect radar vectors to final approach course.

VORTAC GEP 117.3 Chan 120	APP CRS 266°	Rwy ldg N/A TDZE N/A Apt Elev 967

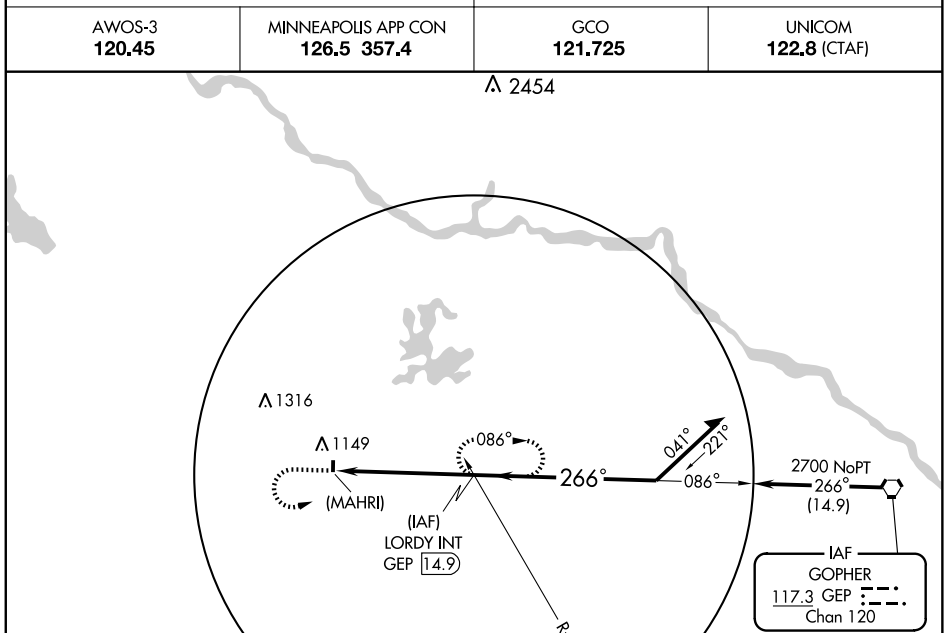
VOR or GPS-B
BUFFALO MUNI (CFE)

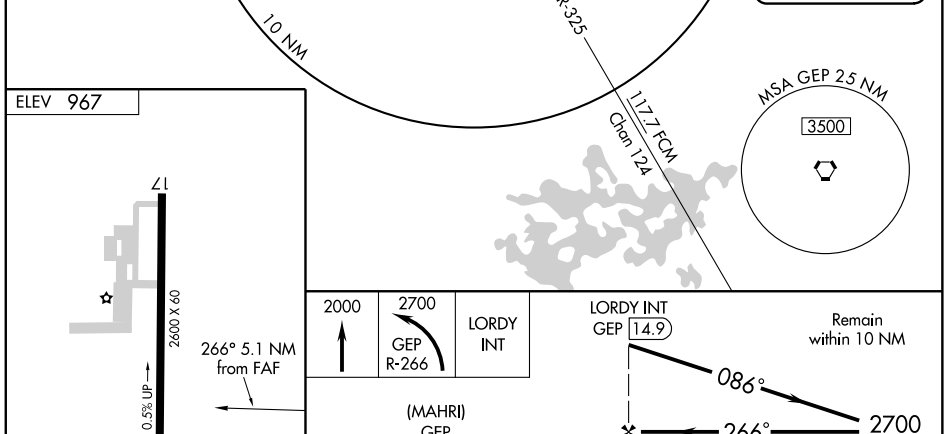
NA

Use Princeton altimeter setting.

MISSED APPROACH: Climb to 2000 then climbing left turn to 2700 via GEP R-266 to LORDY Int and hold.

AWOS-3	MINNEAPOLIS APP CON	GCO	UNICOM
120.45	126.5 357.4	121.725	122.8 (CTAF)





FAF to MAP 5.1 NM					
Knots	60	90	120	150	180
Min:Sec	5:06	3:24	2:33	2:02	1:42

CATEGORY	A	B	C	D
CIRCLING	1560-1 593 (600-1)		1560-1½ 593 (600-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	3499
314°	TDZE	1179
	Apt Elev	1179

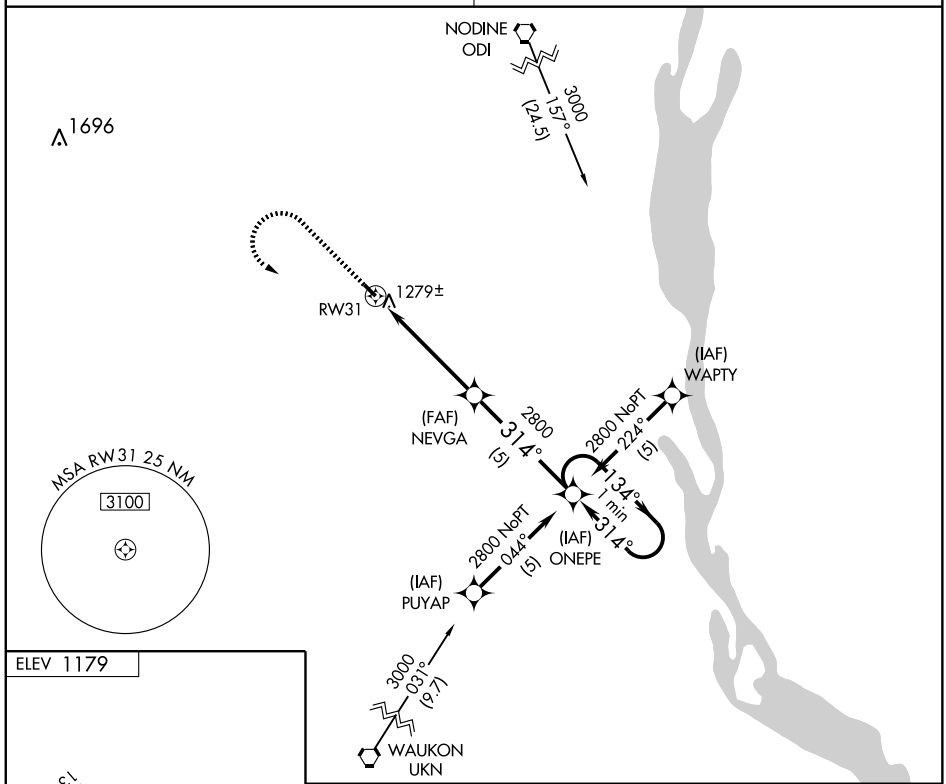
GPS RWY 31
CALEDONIA/HOUSTON COUNTY (CHU)

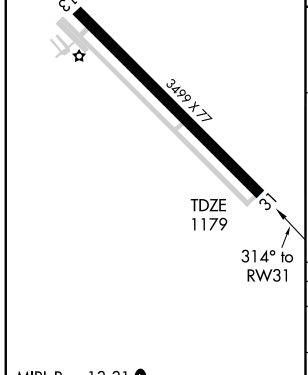
NA

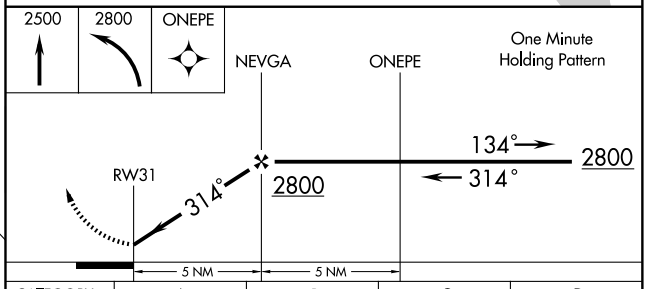
Use La Crosse, WI altimeter setting.

MISSED APPROACH: Climb to 2500 then climbing left turn to 2800 direct ONEPE WP and hold.

MINNEAPOLIS CENTER	CTAF
128.6 363.0	122.9 L







CATEGORY	A	B	C	D
S-31	1660-1	481 (500-1)	1660-1¼ 481 (500-1¼)	NA
CIRCLING	1820-1	641 (700-1)	1820-1¾ 641 (700-1¾)	NA

MIRL Rwy 13-31 L

VORTAC ODI	APP CRS	Rwy Idg	N/A
117.9	184°	TDZE	N/A
Chan 126		Apt Elev	1179

VOR/DME or GPS-A

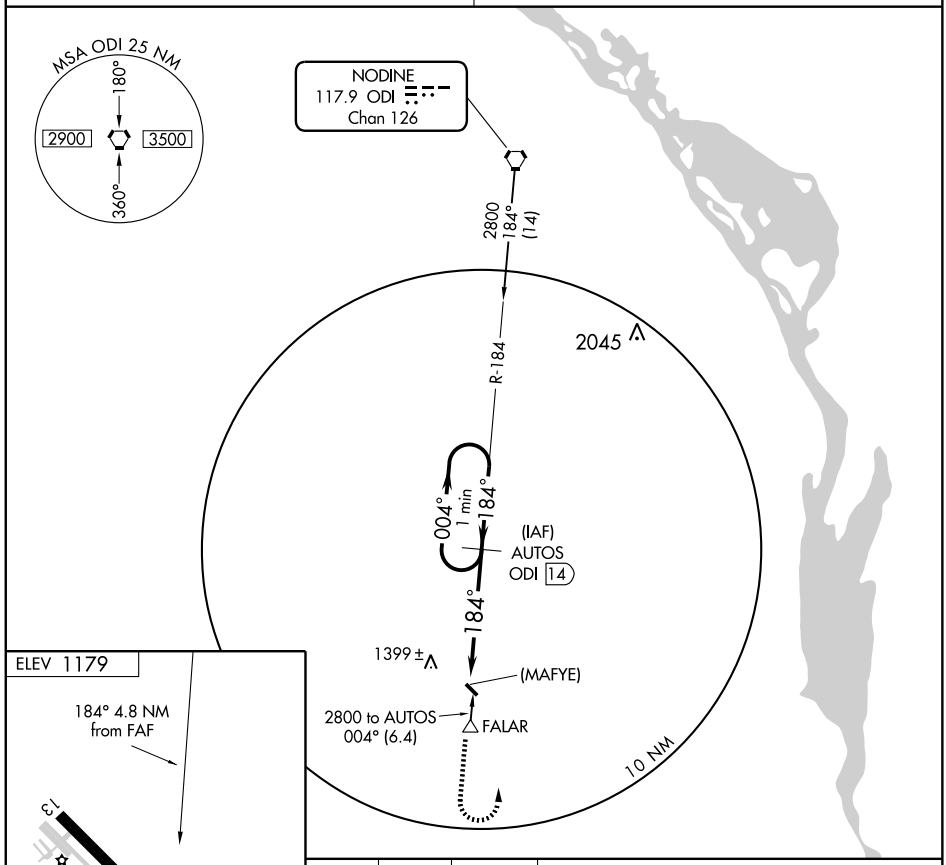
CALEDONIA/HOUSTON COUNTY (CHU)

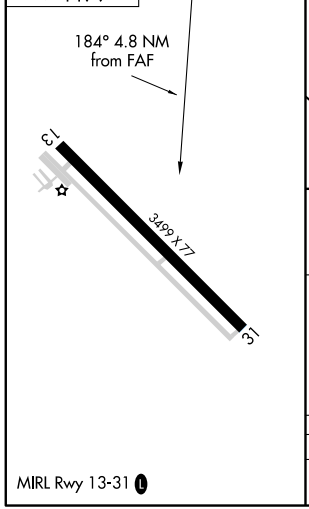
NA

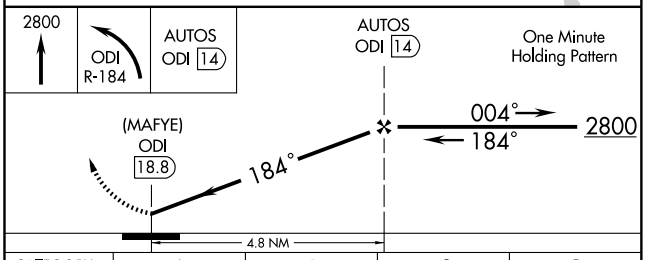
Use La Crosse, WI altimeter setting.

MISSED APPROACH: Climb to 2800 then left turn via ODI R-184 to AUTOS/14 DME and hold.

MINNEAPOLIS CENTER	CTAF
128.6 363.0	122.9 L







CATEGORY	A	B	C	D
CIRCLING	1820-1 641 (700-1)		1820-1¾ 641 (700-1¾)	NA

MIRL Rwy 13-31 L

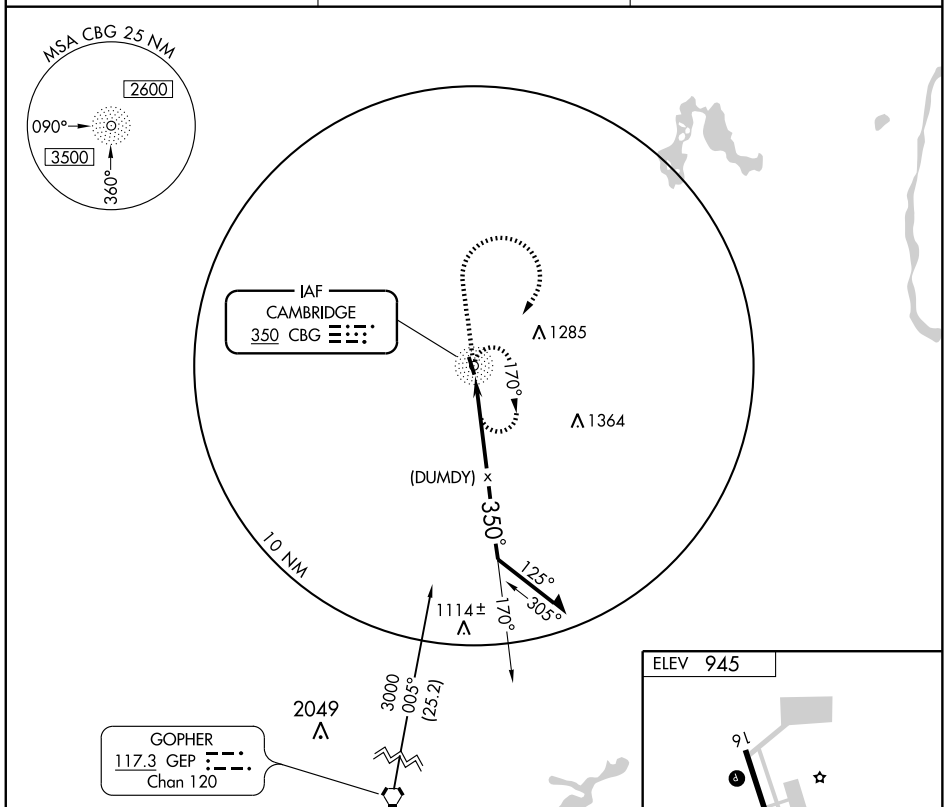
NDB CBG	APP CRS	Rwy ldg	4000
350	350°	TDZE	945
		Apt Elev	945

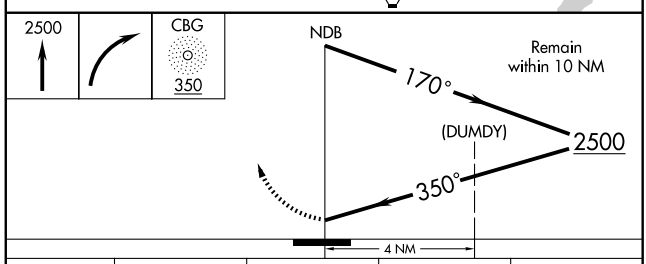
NDB or GPS RWY 34
CAMBRIDGE MUNI (CBG)

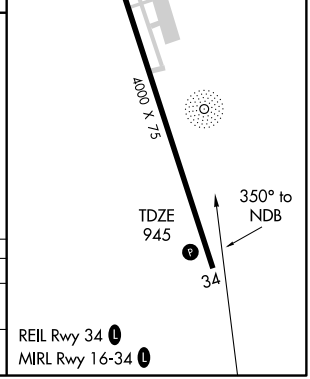
NA

MISSED APPROACH: Climb to 2500 then right turn direct CBG NDB and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
121.125	121.05 397.9	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-34	1480-1	535 (600-1)	1480-1½ 535 (600-1½)	NA
CIRCLING	1480-1	535 (600-1)	1480-1½ 535 (600-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

ILS or LOC/DME RWY 31

LOC I-RYM 111.1	APCH CRS 312°	Rwy ldg 6100 TDZE 1149 Arpt Elev 1152

AL-5226 [USA]

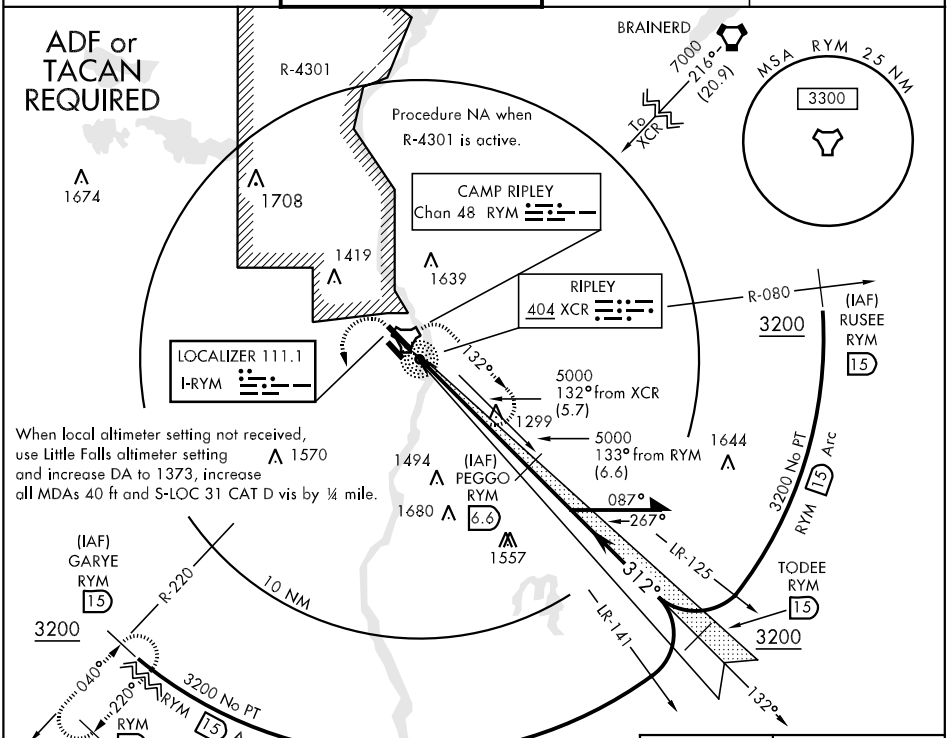
RAY S. MILLER AAF (KRYM)

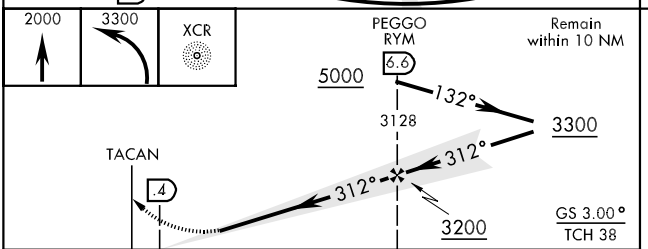
NA * When ALS inop, increase CAT D vis ¼mile.

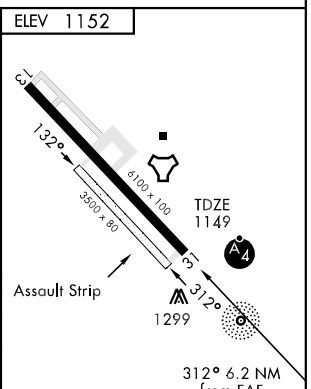
MALSF

MISSED APPROACH: Climb to 2000, then climbing left turn to 3300 direct XCR NDB and hold. (TACAN equipped acft climb to 2000, then climbing left turn to 4200 via RYM R-220 to GARYE 15 DME and hold).

MINNEAPOLIS CENTER	MILLER TOWER *	CLNC DEL	AWOS-3
118.05 239.0	254.4 126.2 L 49.2	126.2	148.35







CATEGORY	A	B	C	D
S-ILS 31	1349-¾ 200 (200-¾)			
S-LOC 31 *	1580-¾ 431 (500-¾)		1580-1 431 (500-1)	1580-1¼ 431 (500-1¼)
CIRCLING	1620-1 468 (500-1)	1640-1 488 (500-1)	1640-1½ 488 (500-1½)	1720-2 568 (600-2)

HIRL Rwy 13-31 L

NC-1, 08 APR 2010 to 06 MAY 2010

NDB RWY 31

NDB	XCR
	404

APCH CRS	
	301°

Rwy ldg	6100
TDZE	1149
Arpt Elev	1152

AL-5226 [USA]

RAY S. MILLER AAF (KRYM)

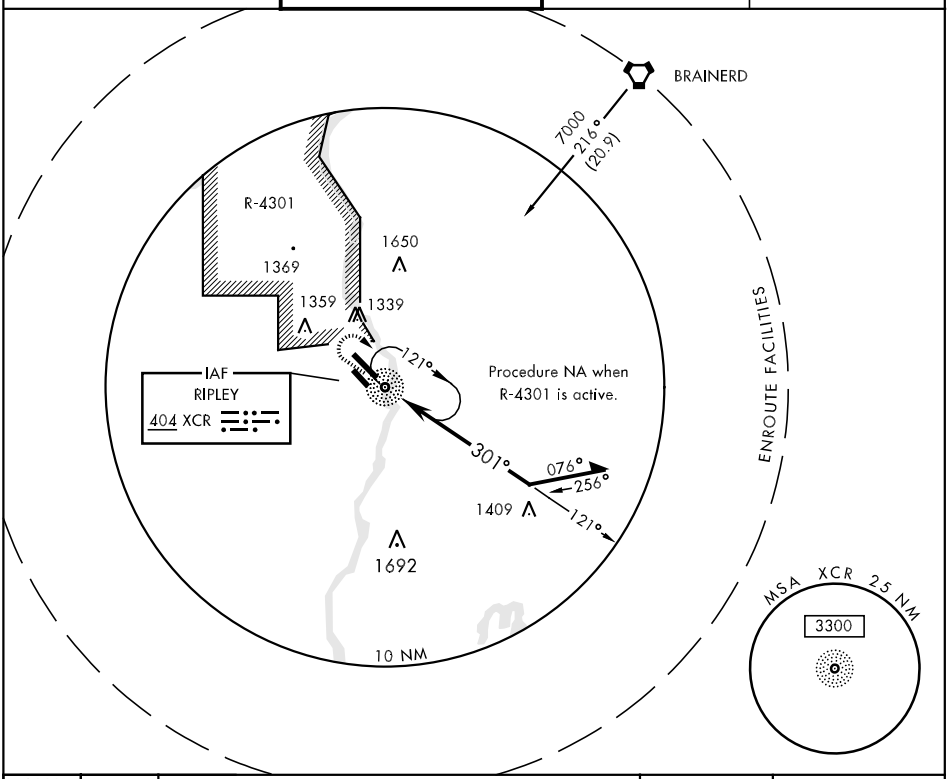
When local altimeter setting not received, use Little Falls altimeter setting and increase all MDA 40'.
Inop table does not apply to CAT C.

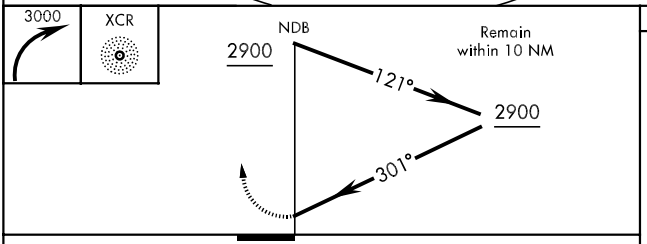
NA

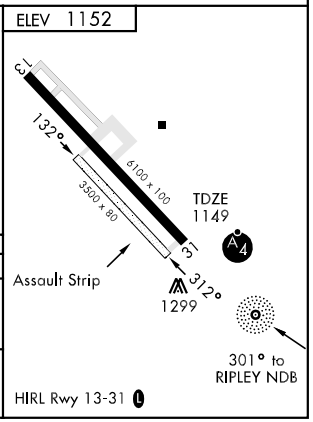
MALSF

MISSED APPROACH: Climbing right turn to 3000 in XCR NDB holding pattern.

MINNEAPOLIS CENTER	MILLER TOWER ★	CLNC DEL	AWOS-3
118.05 239.0	126.2 (L) 254.4 49.2	126.2	148.35







CATEGORY	A	B	C	D
S-31	1760-¾ 611 (700-¾)		1760-1¾ 611 (700-1¾)	1760-2 611 (700-2)
CIRCLING	1760-1 608 (700-1)		1760-1¾ 608 (700-1¾)	1760-2 608 (700-2)

RNAV (GPS) RWY 13

APCH CRS	Rwy ldg	6100
132°	TDZE	1152
	Arpt Elev	1152

AL-5226 [USA]

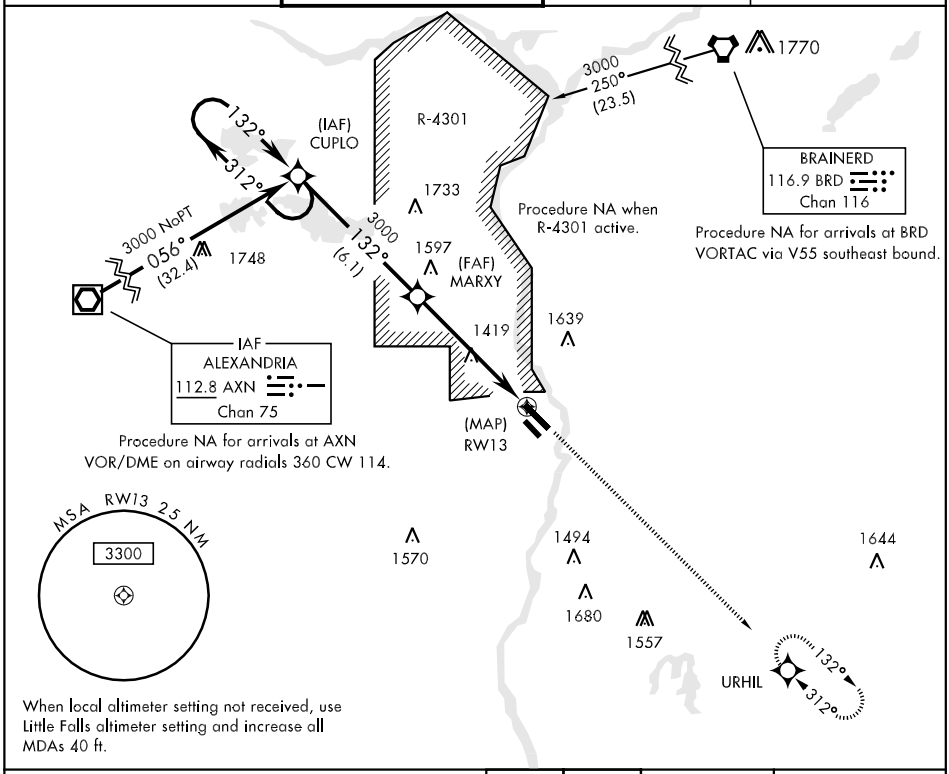
RAY S. MILLER AAF (KRYM)

NA

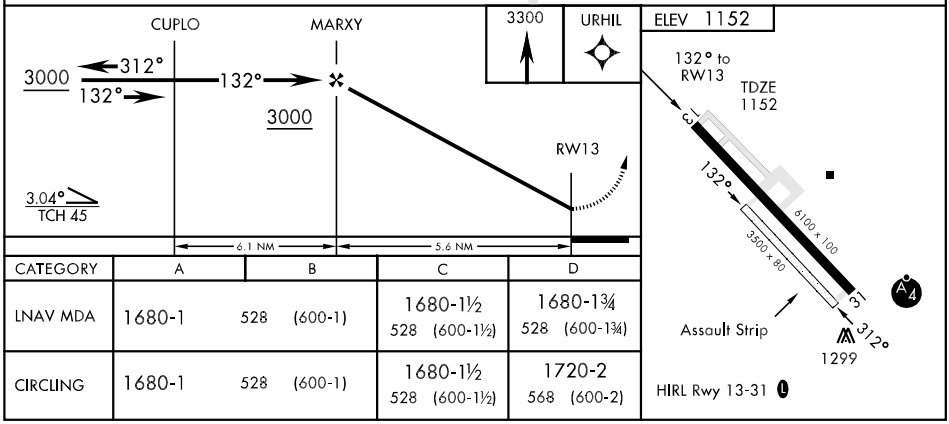
DME/DME RNP-0.3 NA.
Visibility reduction by helicopters NA.

MISSED APPROACH: Climb to 3300 direct URHIL and hold.

MINNEAPOLIS CENTER	MILLER TOWER ★	CLNC DEL	AWOS-3
118.05 239.0	254.4 126.2 L 49.2	126.2	148.35



When local altimeter setting not received, use Little Falls altimeter setting and increase all MDAs 40 ft.



CATEGORY	A	B	C	D
LNAV MDA	1680-1 528 (600-1)		1680-1½ 528 (600-1½)	1680-1¾ 528 (600-1¾)
CIRCLING	1680-1 528 (600-1)		1680-1½ 528 (600-1½)	1720-2 568 (600-2)

NC-1, 08 APR 2010 to 06 MAY 2010

RNAV (GPS) RWY 31

APCH CRS	Rwy ldg	6100
312°	TDZE	1149
	Arpt Elev	1152

AL-5226 [USA]

RAY S. MILLER AAF (KRYM)

NA

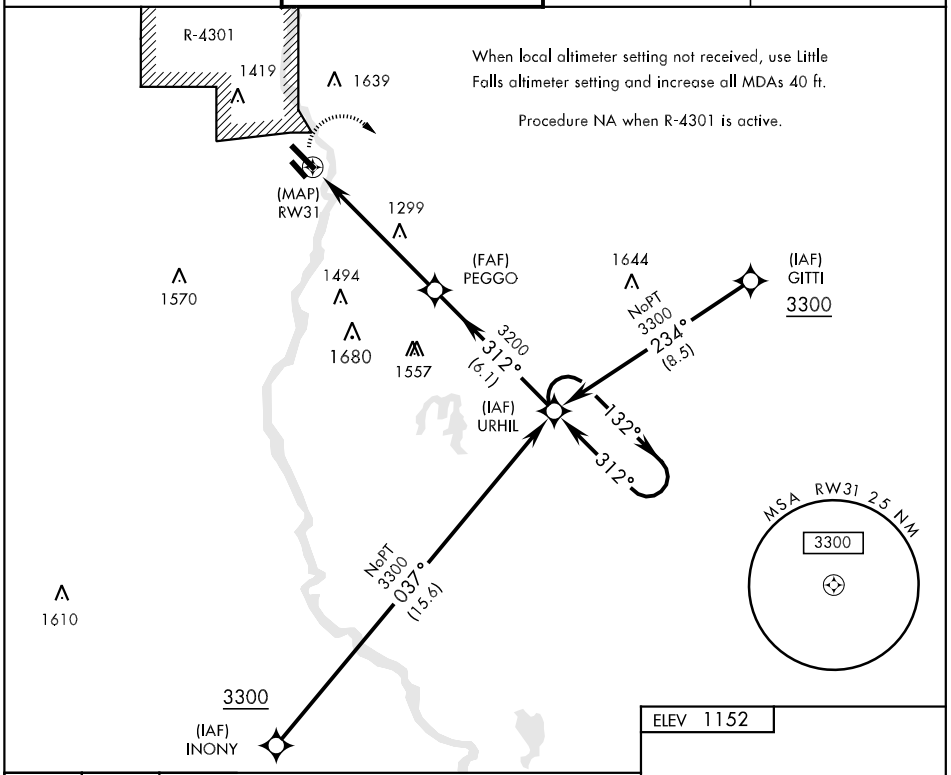
* When ALS inop, increase CAT D vis ¼ mile.

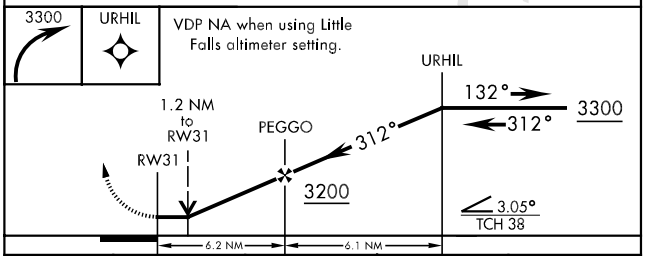
DME/DME RNP-0.3 NA.

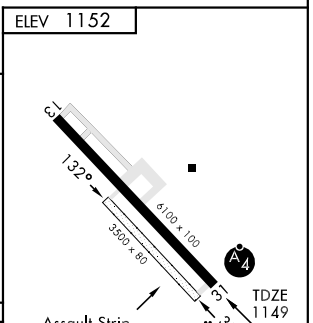
MALS A4

MISSED APPROACH: Climbing right turn to 3300 direct URHIL WPT and hold.

MINNEAPOLIS CENTER	MILLER TOWER ★	CLNC DEL	AWOS-3
118.05 239.0	254.4 126.2 L 49.2	126.2	148.35







CATEGORY	A	B	C	D
LNAV MDA *	1580- ¾ 431 (500- ¾)		1580-1 431 (500-1)	1580-1¼ 431 (500-1¼)
CIRCLING	1620-1 468 (500-1)	1640-1 488 (500-1)	1640-1½ 488 (500-1½)	1720-2 568 (600-2)

TACAN RWY 13

TACAN RYM Chan 48	APCH CRS 128°	Rwy ldg 6100 TDZE 1152 Arpt Elev 1152

AL-5226 [USA]

RAY S. MILLER AAF (KRYM)

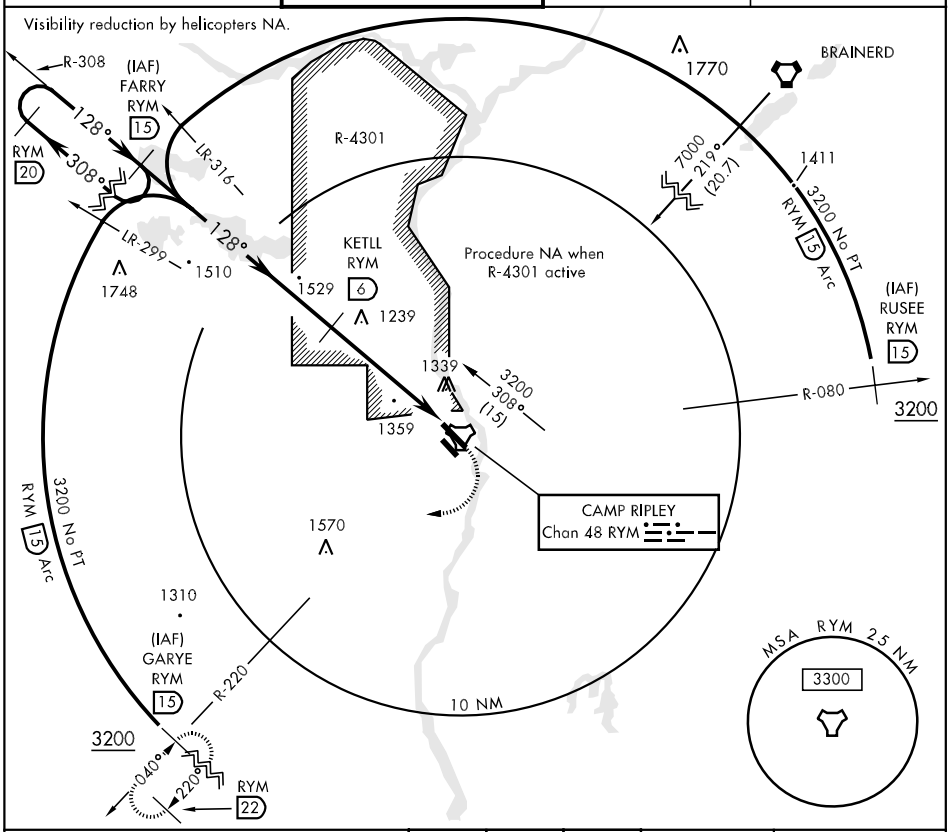
When local altimeter setting not received, use Little Falls altimeter setting and increase all MDA 40'.

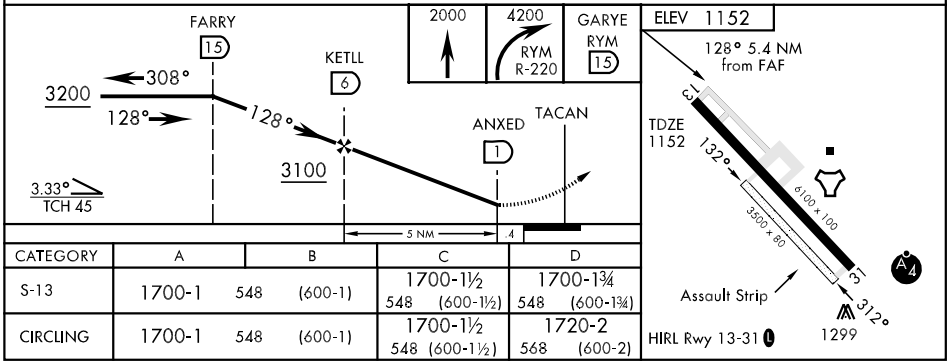
NA

MISSED APPROACH: Climb to 2000 then climbing right turn to 4200 via RYM TACAN R-220 to GARYE (15 DME) and hold.

MINNEAPOLIS CENTER	MILLER TOWER ★	CLNC DEL	AWOS-3
118.05 239.0	126.2 L 254.4 49.2	126.2	148.35

Visibility reduction by helicopters NA.





CATEGORY	A	B	C	D
S-13	1700-1 548 (600-1)		1700-1½ 548 (600-1½)	1700-1¾ 548 (600-1¾)
CIRCLING	1700-1 548 (600-1)		1700-1½ 548 (600-1½)	1720-2 568 (600-2)

TACAN RWY 31

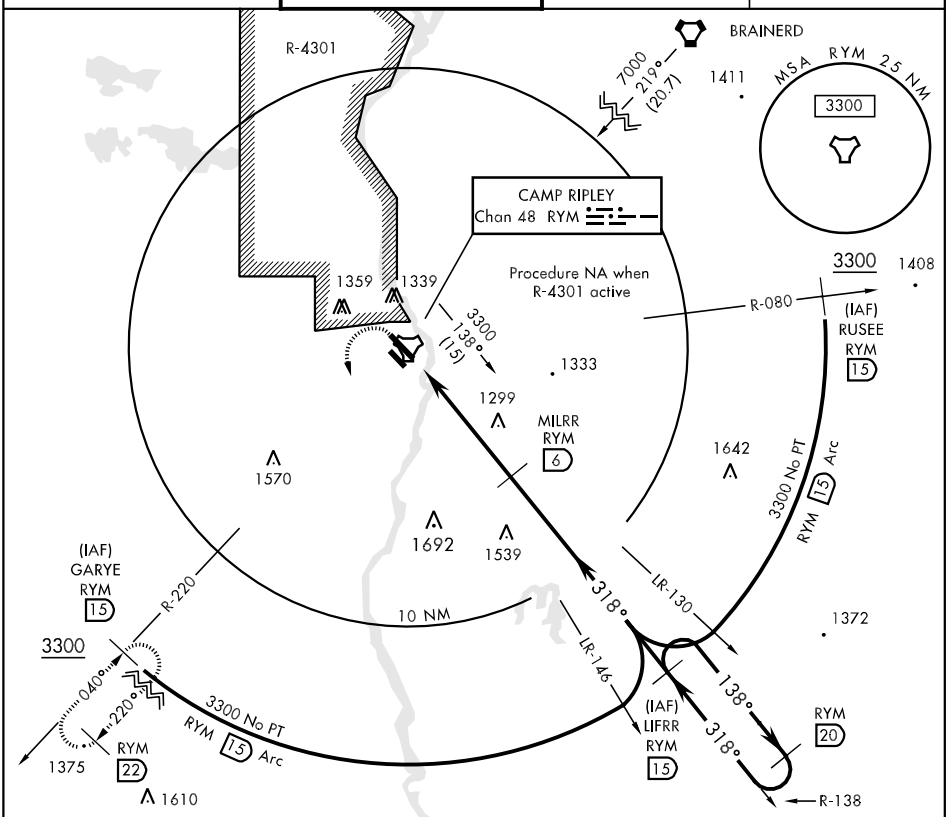
TACAN RYM Chan 48	APCH CRS 318°	Rwy ldg 6100 TDZE 1149 Arpt Elev 1152	AL-5226 [USA]	RAY S. MILLER AAF (KRYM)

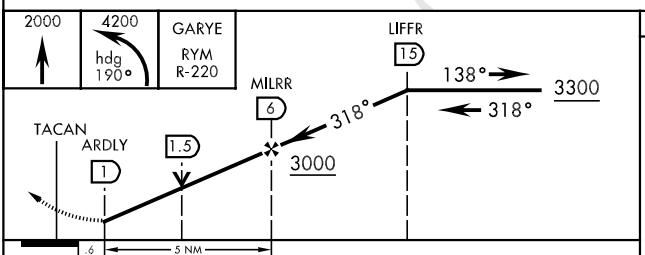
When local altimeter setting not received, use Little Falls altimeter setting and increase all MDA 40′ and INCR S-31 CAT D vis ¼ mile.
NA Inop table does not apply to CAT C.

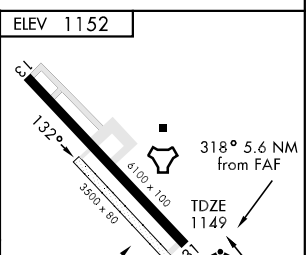
MALSF

MISSED APPROACH: Climb to 2000 then climbing left turn to 4200 via hdg 190° and RYM R-220 to GARYE (15 DME) and hold.

MINNEAPOLIS CENTER	MILLER TOWER ★	CLNC DEL	AWOS-3
118.05 239.0	126.2 L 254.4 49.2	126.2	148.35







CATEGORY	A	B	C	D
S-31	1560-¾ 411 (500-¾)		1560-1¼ 411 (500-1¼)	
CIRCLING	1620-1 468 (500-1)	1640-1 488 (500-1)	1640-1½ 488 (500-1½)	1720-2 568 (600-2)

APP CRS	Rwy ldg	4648
115°	TDZE	1193
	Apt Elev	1193

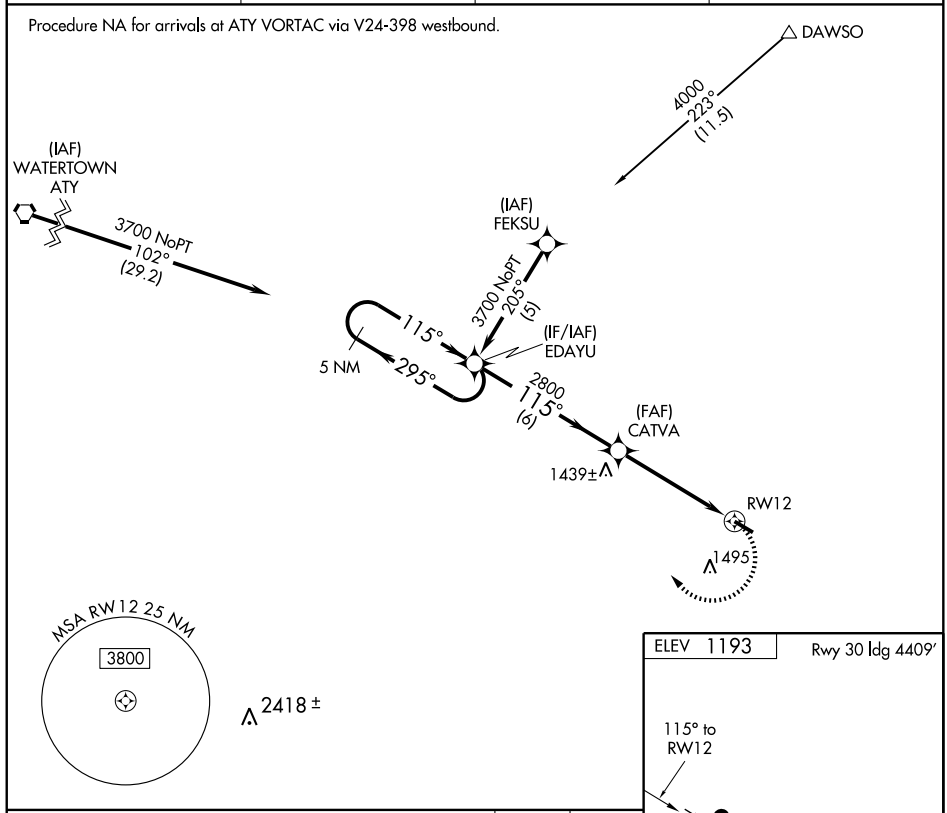
RNAV (GPS) RWY 12
CANBY/MYERS FIELD (CNB)

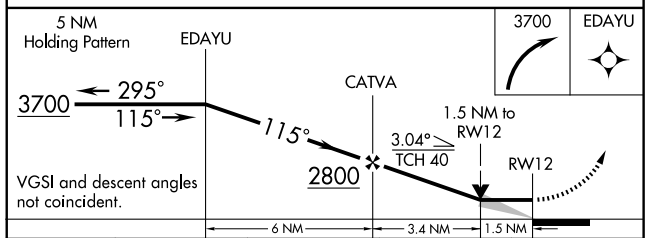
DME/DME RNP-0.3 NA.
VDP NA when using Lac Qui Parle County altimeter setting.
If local altimeter setting not received, use Lac Qui Parle County altimeter setting and increase all MDAs 60 feet.

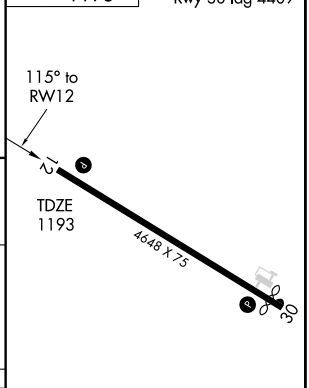
MISSED APPROACH: Climbing right turn to 3700 direct EDAYU and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	CTAF
118.575	128.5 306.2	121.725	122.9 L

Procedure NA for arrivals at ATY VORTAC via V24-398 westbound.







CATEGORY	A	B	C	D
LNAV MDA	1700-1 507 (600-1)		NA	
CIRCLING	1700-1 507 (600-1)		NA	

MIRL Rwy 12-30 L
REIL Rwys 12 and 30 L

NC-1. 08 APR 2010 to 06 MAY 2010

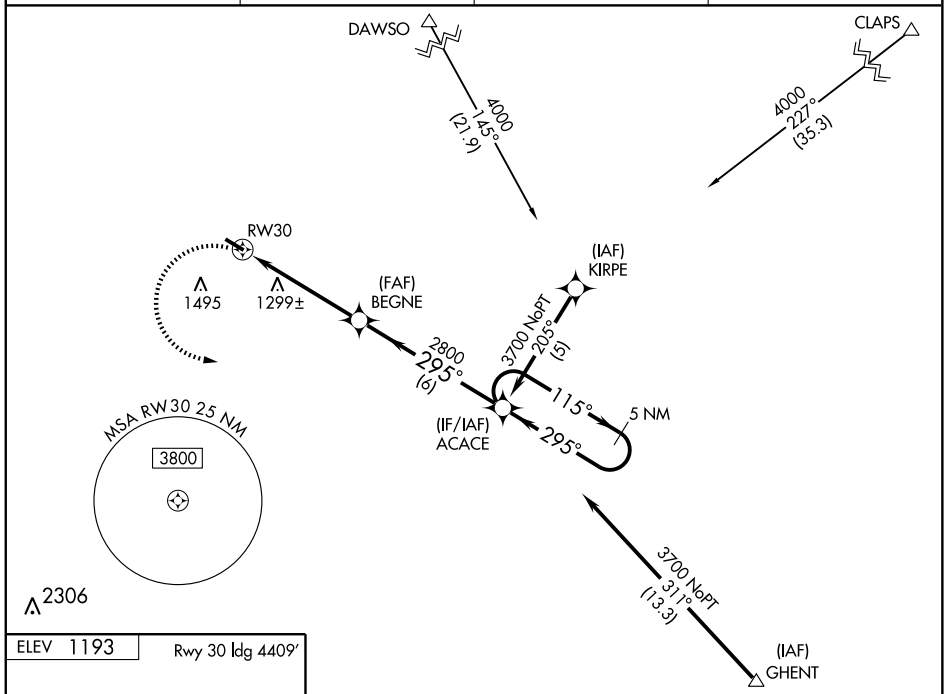
APP CRS	Rwy ldg	4409
295°	TDZE	1191
	Apt Elev	1193

RNAV (GPS) RWY 30
CANBY/MYERS FIELD (CNB)

DME/DME RNP-0.3 NA.
Visibility reduction by helicopters NA.
If local altimeter setting not received, use Lac Qui Parle County altimeter setting and increase all MDAs 60 feet.

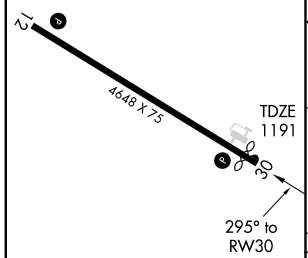
MISSED APPROACH: Climbing left turn to 3700 direct ACACE and hold.

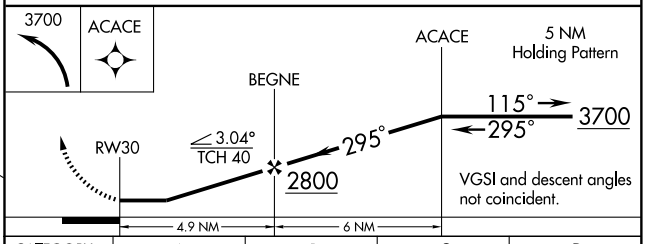
AWOS-3	MINNEAPOLIS CENTER	GCO	CTAF
118.575	128.5 306.2	121.725	122.9 L



Procedure NA for arrivals at GHENT via V26 eastbound.

ELEV 1193 Rwy 30 ldg 4409′





CATEGORY	A	B	C	D
LNAV MDA	1600-1 409 (500-1)		NA	
CIRCLING	1600-1 407 (500-1)	1660-1 467 (500-1)	NA	

MIRL Rwy 12-30 L
REIL Rwys 12 and 30 L

NC-1. 08 APR 2010 to 06 MAY 2010

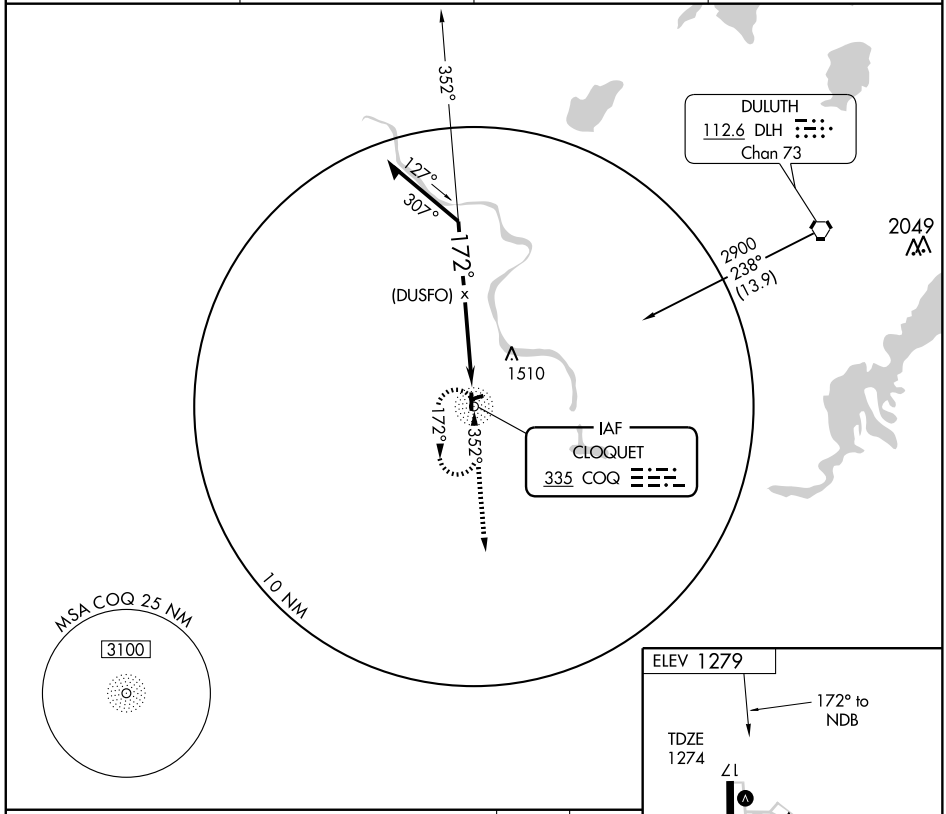
NDB COQ	APP CRS	Rwy ldg	4003
335	172°	TDZE	1274
		Apt Elev	1279

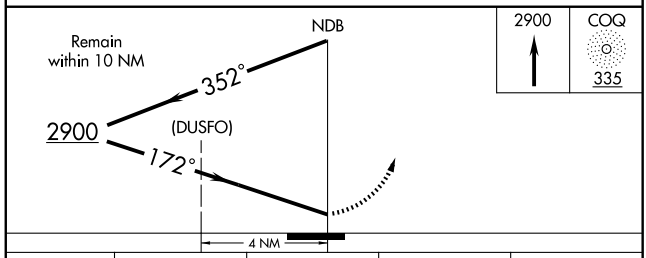
NDB or GPS RWY 17
CLOQUET CARLTON COUNTY (COQ)

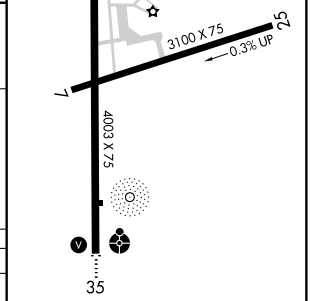
T
NA

MISSED APPROACH: Climb to 2900 then direct COQ NDB and hold.

AWOS-3	DULUTH APP CON ★	CLNC DEL	UNICOM
118.525	125.45 255.9	122.15	122.8 (CTAF) L







MIRL Rwys 7-25 and 17-35 L
REIL Rwy 17 L

CATEGORY	A	B	C	D
S-17	1860-1	586 (600-1)	1860-1½ 586 (600-1½)	NA
CIRCLING	1860-1	582 (600-1)	1860-1½ 582 (600-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

NDB COQ	APP CRS	Rwy ldg	4003
335	005°	TDZE	1278
		Apt Elev	1279

NDB RWY 35

CLOQUET CARLTON COUNTY (COQ)

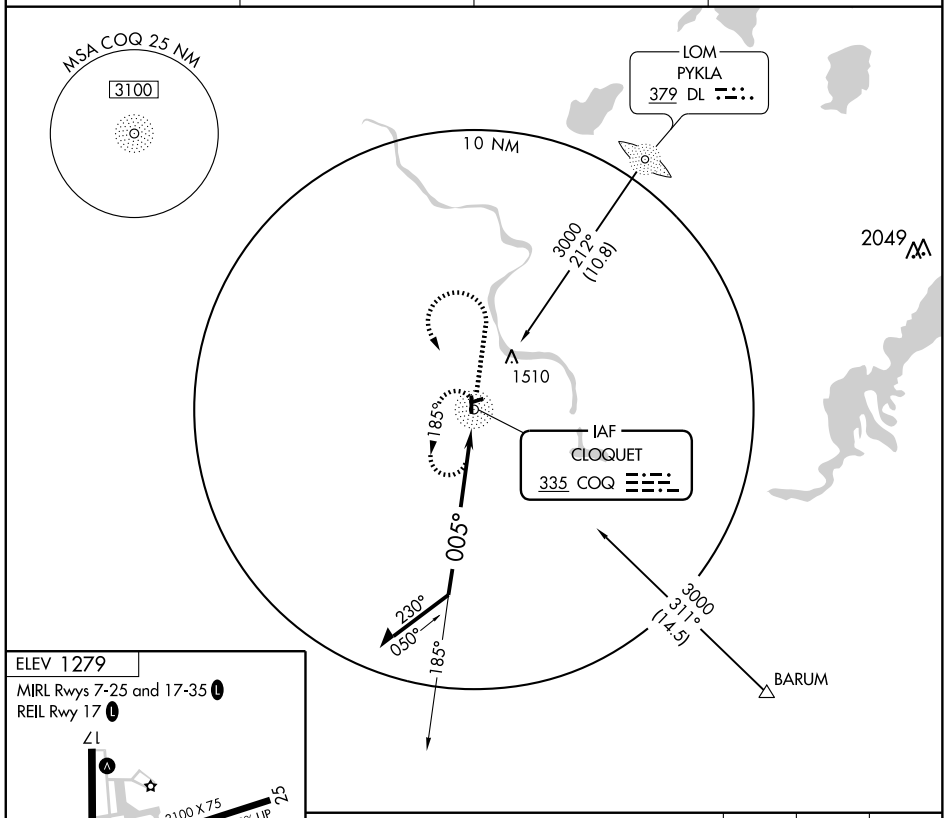
When local altimeter setting not received, use Duluth Intl altimeter setting and increase all MDAs 60 feet and increase S-35 and Circling Cat. C visibilities ¼ mile.

NA

ODALS

MISSED APPROACH: Climb to 2300 then climbing left turn to 3000 direct COQ NDB and hold, continue climb-in-hold to 3000.

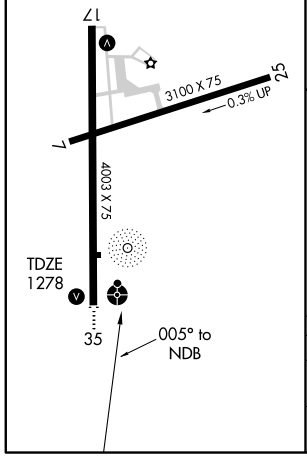
AWOS-3	DULUTH APP CON ★	CLNC DEL	UNICOM
118.525	125.45 255.9	122.15	122.8 (CTAF) L

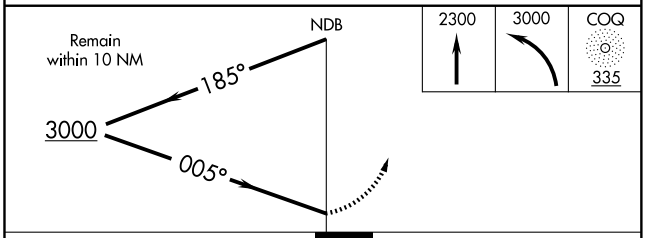


ELEV 1279

MIRL Rwys 7-25 and 17-35 L

REIL Rwy 17 L





CATEGORY	A	B	C	D
S-35	1860-1	582 (600-1)	1860-1½ 582 (600-1½)	NA
CIRCLING	1860-1	581 (600-1)	1860-1½ 581 (600-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	4003
356°	TDZE	1278
	Apt Elev	1279

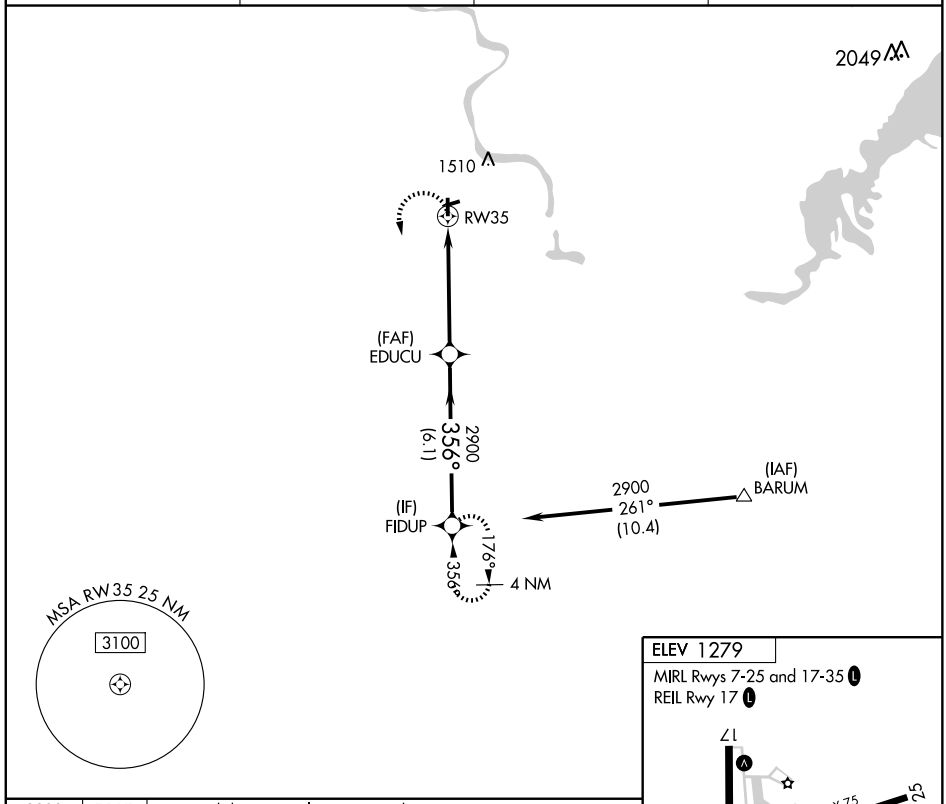
RNAV (GPS) RWY 35
CLOQUET CARLTON COUNTY (COQ)

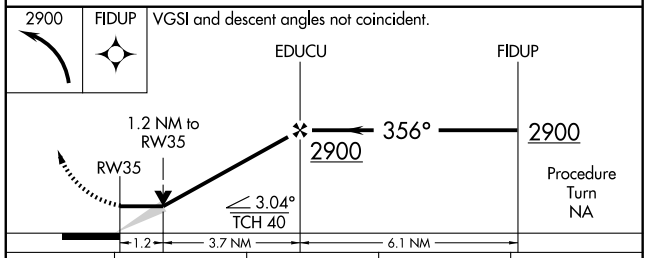
DME/DME RNP-0.3 NA.
VDP NA when using Duluth Intl altimeter setting.
When local altimeter setting not received, use Duluth Intl altimeter setting and increase all MDAs 60 feet and Cat. C Circling visibility ¼ mile.

ODALS

MISSED APPROACH: Climbing left turn to 2900 direct FIDUP and hold.

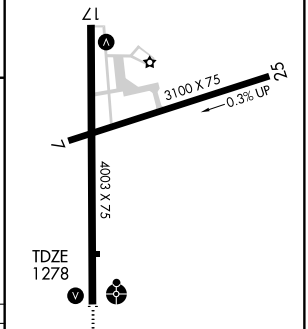
AWOS-3	DULUTH APP CON ★	CLNC DEL	UNICOM
118.525	125.45 255.9	122.15	122.8 (CTAF) L





CATEGORY	A	B	C	D
LNAV MDA	1680-1 402 (500-1)		1680-1¼ 402 (500-1¼)	NA
CIRCLING	1740-1 461 (500-1)	1780-1 501 (600-1)	1860-1½ 581 (600-1½)	NA

ELEV 1279
MIRL Rwys 7-25 and 17-35 L
REIL Rwy 17 L



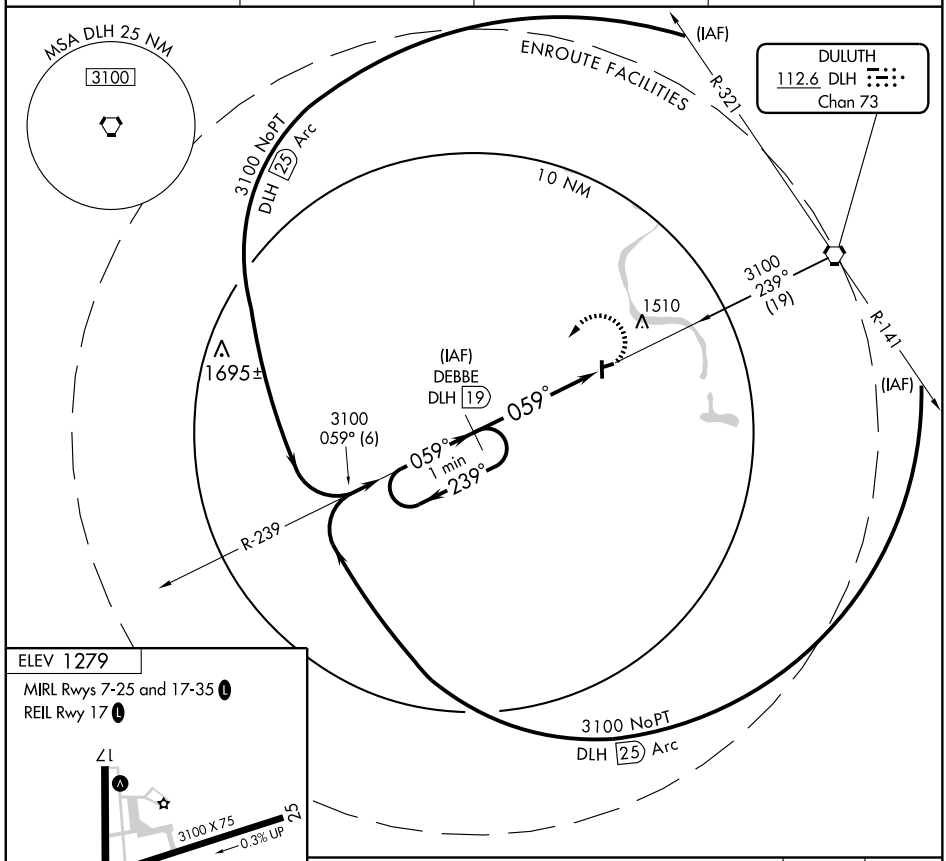
VORTAC DLH	APP CRS	Rwy ldg	N/A
112.6	059°	TDZE	N/A
Chan 73		Apt Elev	1279

VOR/DME-A
CLOQUET CARLTON COUNTY (COQ)

NA

MISSED APPROACH: Climbing left turn to 3100 via DLH R-239 to DEBBE DLH 19 DME and hold.

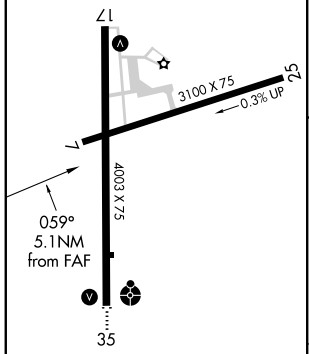
AWOS-3	DULUTH APP CON ★	CLNC DEL	UNICOM
118.525	125.45 255.9	122.15	122.8 (CTAF) L

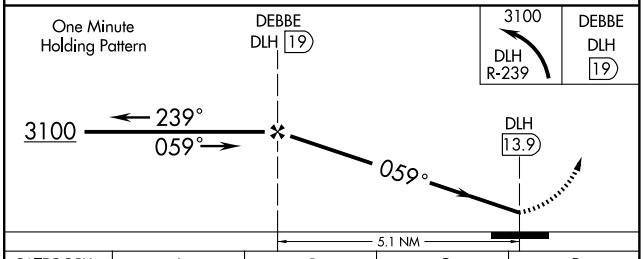


ELEV 1279

MIRL Rwys 7-25 and 17-35 L

REIL Rwy 17 L





CATEGORY	A	B	C	D
CIRCLING	1740-1 462 (500-1)	1760-1 482 (500-1)	1760-1½ 482 (500-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

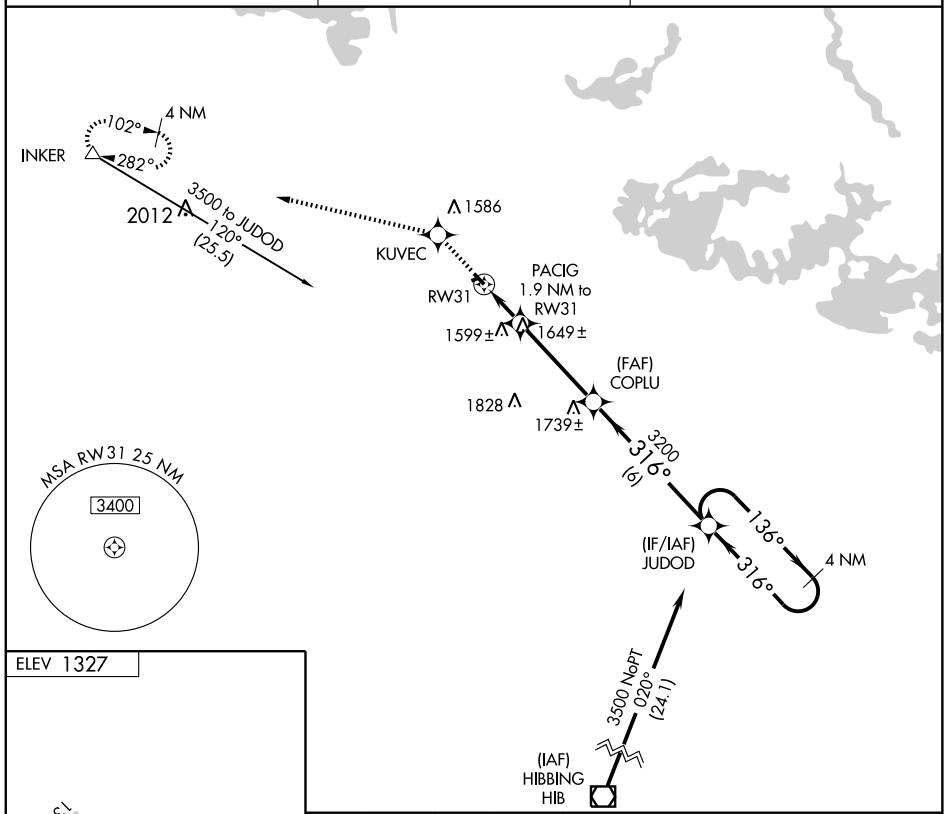
APP CRS	Rwy ldg	3200
316°	TDZE	1327
	Apt Elev	1327

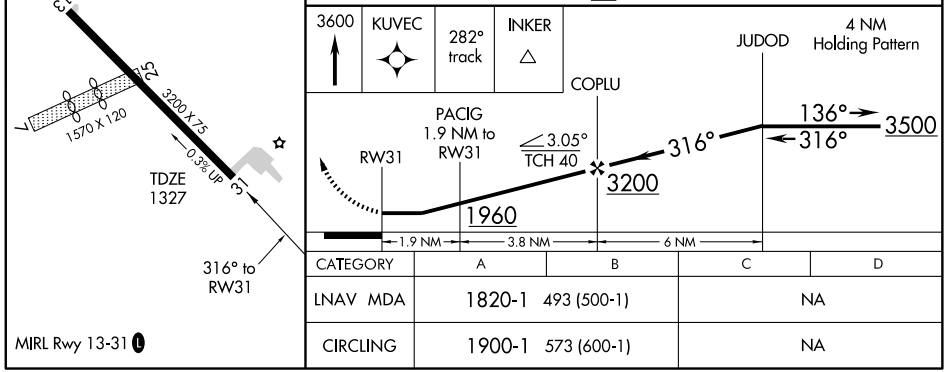
RNAV (GPS) RWY 31
COOK MUNI (CQM)

DME/DME RNP- 0.3 NA.
Procedure NA at night.

MISSED APPROACH: Climb to 3600 direct KUVEC and via 282° track to INKER and hold.

AWOS-3	PRINCETON RADIO	CTAF
118.175	122.45	122.9 L





CATEGORY	A	B	C	D
LNAV MDA	1820-1 493 (500-1)		NA	
CIRCLING	1900-1 573 (600-1)		NA	

NC-1. 08 APR 2010 to 06 MAY 2010

NDB CKN	APP CRS	Rwy ldg	4300
400	118°	TDZE	896
		Apt Elev	900

NDB RWY 13

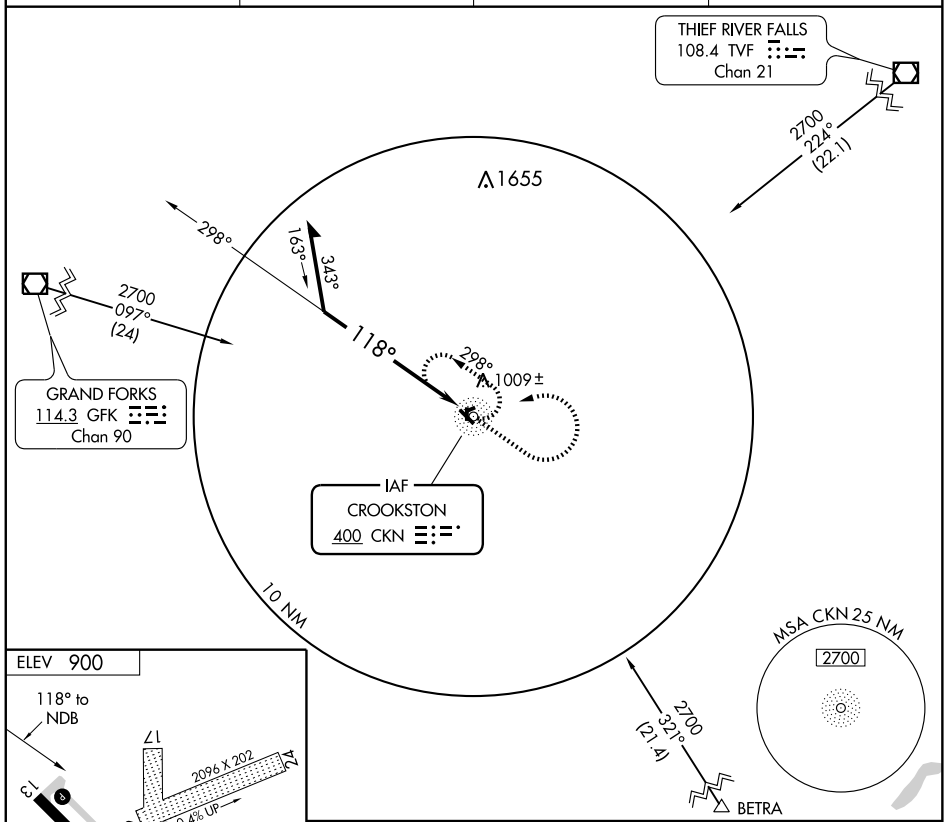
CROOKSTON MUNI-KIRKWOOD FIELD (CKN)

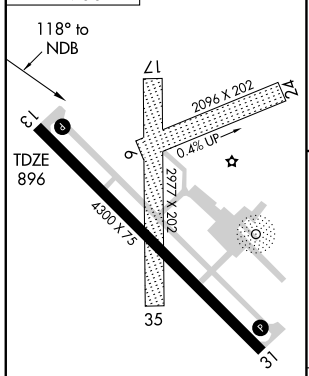
NA

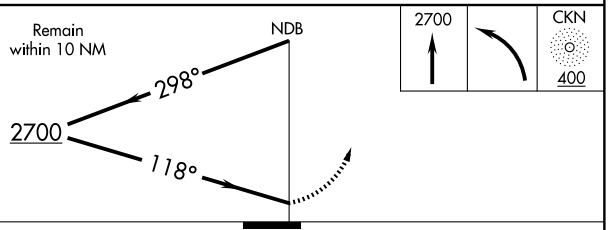
If local altimeter setting not received, use Grand Forks altimeter setting and increase all MDAs 80 feet.

MISSED APPROACH: Climb to 2700 then left turn direct CKN NDB and hold.

AWOS-3	GRAND FORKS APP CON	CLNC DEL	UNICOM
400	118.1 318.1	118.15	122.7 (CTAF) L







CATEGORY	A	B	C	D
S-13	1360-1	464 (500-1)	1360-1¼ 464 (500-1¼)	NA
CIRCLING	1360-1	460 (500-1)	1360-1½ 460 (500-1½)	NA

REIL Rwys 13 and 31 L
MIRL Rwy 13-31 L

NC-1. 08 APR 2010 to 06 MAY 2010

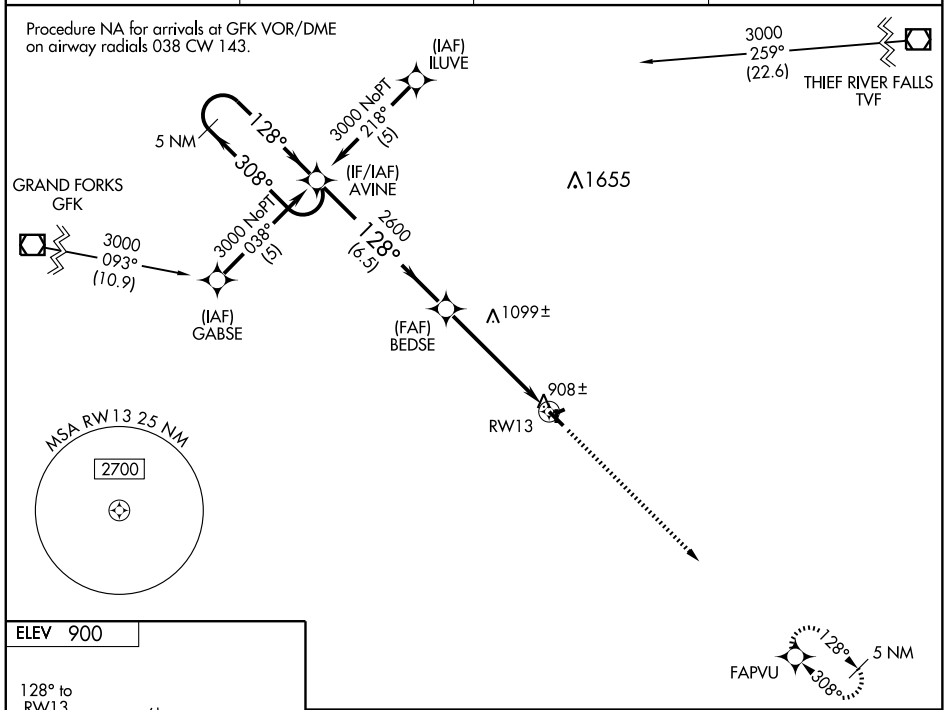
WAAS CH 72704 W13A	APP CRS 128°	Rwy ldg 4300 TDZE 896 Apt Elev 900

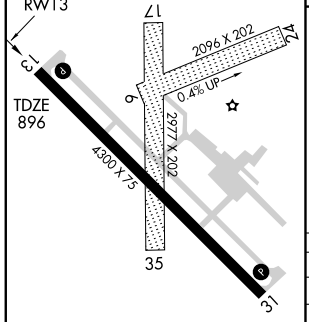
RNAV (GPS) RWY 13
CROOKSTON MUNI-KIRKWOOD FIELD (CKN)

Baro-VNAV NA when using Grand Forks altimeter setting.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F). DME/DME RNP-0.3 NA.
If local altimeter setting not received, use Grand Forks altimeter setting and increase all DAs 62 feet and all MDAs 80 feet.

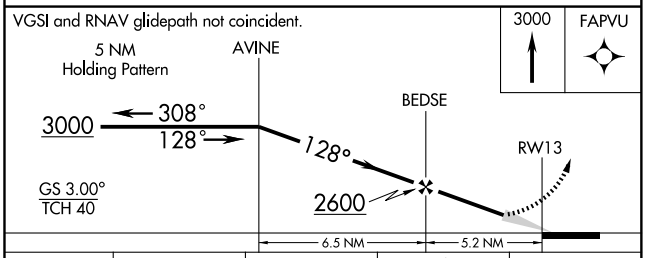
MISSED APPROACH: Climb to 3000 direct FAPVU and hold.

AWOS-3	GRAND FORKS APP CON	CLNC DEL	UNICOM
400	118.1 318.1	118.15	122.7 (CTAF) L





REIL Rwys 13 and 31 L
MIRL Rwy 13-31 L



CATEGORY	A	B	C	D
LPV DA	1146-1 250 (300-1)			NA
LNAV/VNAV DA	1210-1 314 (400-1)			NA
LNAV MDA	1360-1 464 (500-1)		1360-1¼ 464 (500-1¼)	NA
CIRCLING	1360-1 460 (500-1)		1360-1½ 460 (500-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

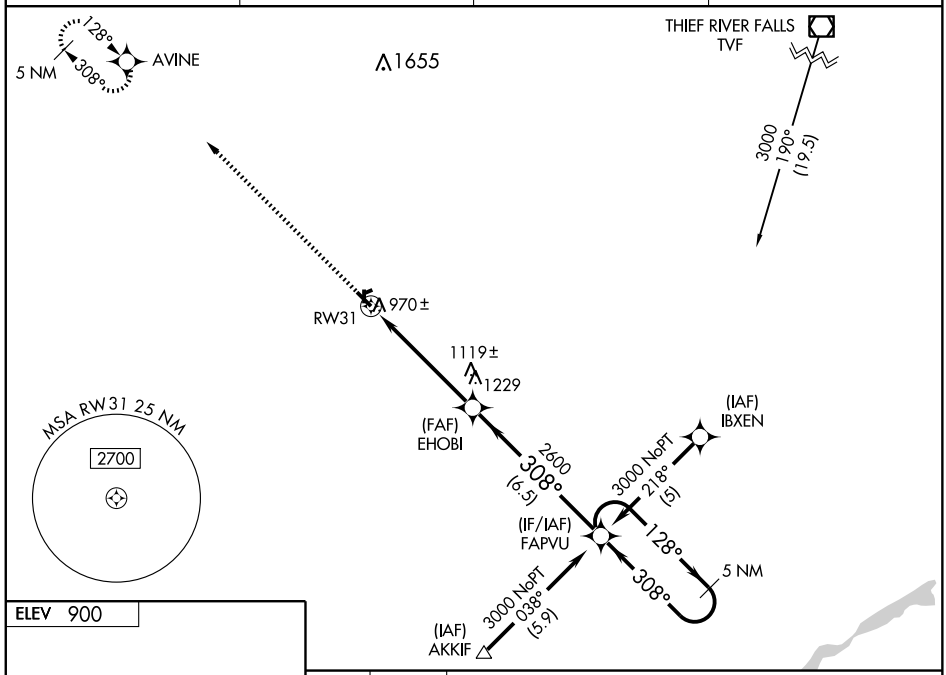
WAAS CH 69304 W31A	APP CRS 308°	Rwy ldg 4300 TDZE 897 Apt Elev 900

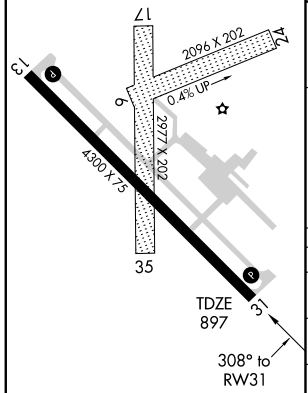
RNAV (GPS) RWY 31
CROOKSTON MUNI-KIRKWOOD FIELD (CKN)

Baro-VNAV NA when using Grand Forks altimeter setting.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 54°C (130°F).
If local altimeter setting not received, use Grand Forks altimeter setting and increase all DAs 62 feet and all MDAs 80 feet.
DME/DME RNP- 0.3 NA. Visibility reduction by helicopters NA.

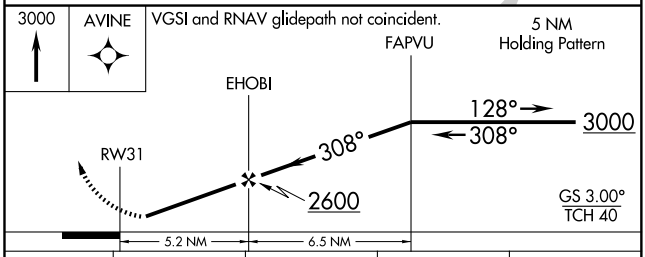
MISSED APPROACH: Climb to 3000 direct AVINE and hold.

AWOS-3	GRAND FORKS APP CON	CLNC DEL	UNICOM
400	118.1 318.1	118.15	122.7 (CTAF) L





REIL Rwys 13 and 31 L
MIRL Rwy 13-31 L



CATEGORY	A	B	C	D
LPV DA	1157-1 260 (300-1)			NA
LNAV/VNAV DA	1320-1½ 423 (500-1½)			NA
LNAV MDA	1380-1 483 (500-1)		1380-1¼ 483 (500-1¼)	NA
CIRCLING	1380-1 480 (500-1)		1380-1½ 480 (500-1½)	NA

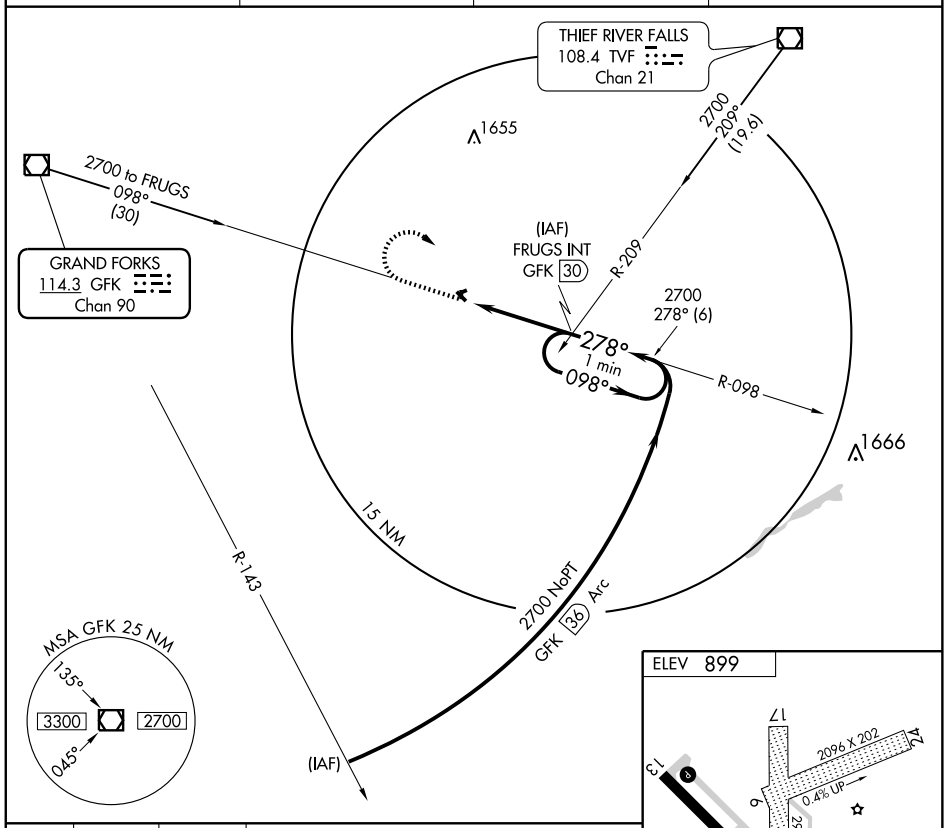
NC-1. 08 APR 2010 to 06 MAY 2010

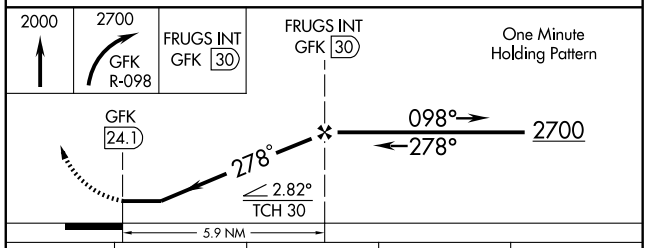
VOR/DME GFK	APP CRS	Rwy ldg	4300
114.3	278°	TDZE	896
Chan 90		Apt Elev	899

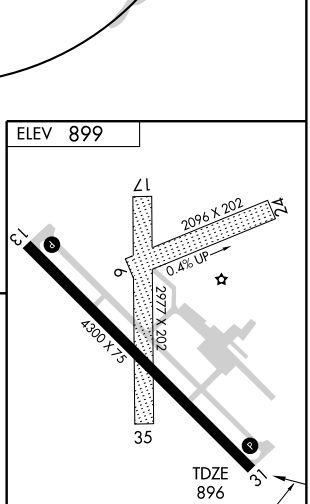
VOR RWY 31
CROOKSTON MUNI-KIRKWOOD FIELD (CKN)

MISSED APPROACH: Climb to 2000 then climbing right turn to 2700 via GFK R-098 to FRUGS Int and hold.

AWOS-3	GRAND FORKS APP CON	CLNC DEL	UNICOM
400	118.1 318.1	118.15	122.7 (CTAF) L







REIL Rwys 13 and 31 L
MIRL Rwy 13-31 L

278° 5.9 NM from FAF

CATEGORY	A	B	C	D
S-31	1700-1 804 (900-1)	1700-1¼ 804 (900-1¼)	1700-2¼ 804 (900-2¼)	NA
CIRCLING	1700-1 801 (900-1)	1700-1¼ 801 (900-1¼)	1700-2¼ 801 (900-2¼)	NA

FAF to MAP 5.9 NM

Knots	60	90	120	150	180
Min:Sec	5:54	3:56	2:57	2:22	1:58

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	4500
135°	TDZE	1397
	Apt Elev	1397

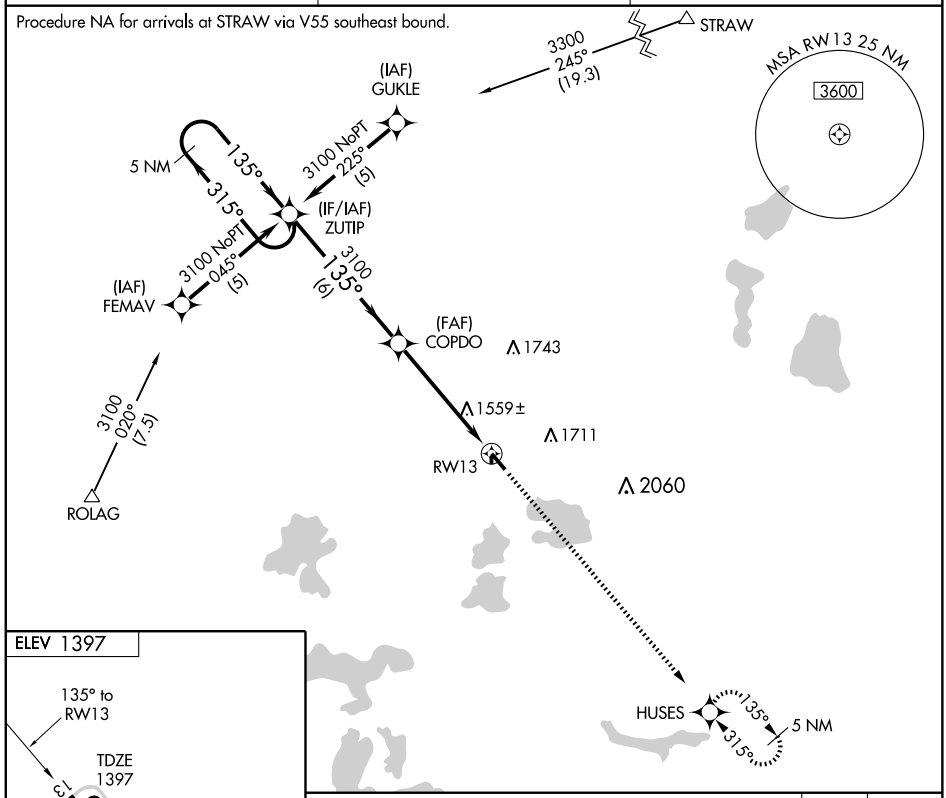
RNAV (GPS) RWY 13
DETROIT LAKES-WETHING FIELD (DTL)

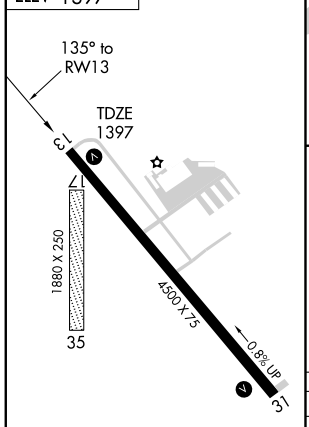
When VGSI inoperative, straight-in/circling Rwy 13 procedure NA at night.
DME/DME RNP -0.3 NA. Visibility reduction by helicopters NA.
If local altimeter setting not received, use Park Rapids altimeter setting and increase DA/MDAs 100 feet.

MISSED APPROACH: Climb to 3100 direct HUSES and hold.

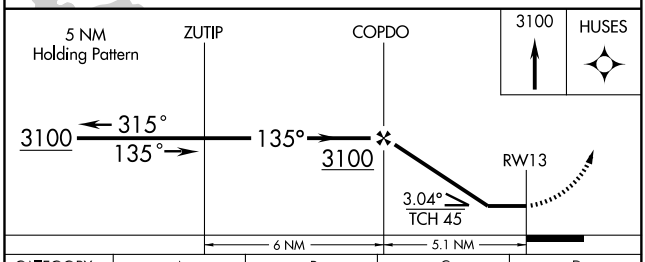
AWOS-3	PRINCETON RADIO	UNICOM
111.2	122.5	122.8 (CTAF) L

Procedure NA for arrivals at STRAW via V55 southeast bound.





MIRL Rwy 13-31 L
REIL Rwys 13 and 31 L



CATEGORY	A	B	C	D
LNAV MDA	1820-1 423 (500-1)		1820-1¼ 423 (500-1¼)	
CIRCLING	1880-1 483 (500-1)	1940-1 543 (600-1)	1940-1½ 543 (600-1½)	2080-2¼ 683 (700-2¼)

WAAS CH 86704 W31A	APP CRS 315°	Rwy ldg 4500 TDZE 1390 Apt Elev 1397

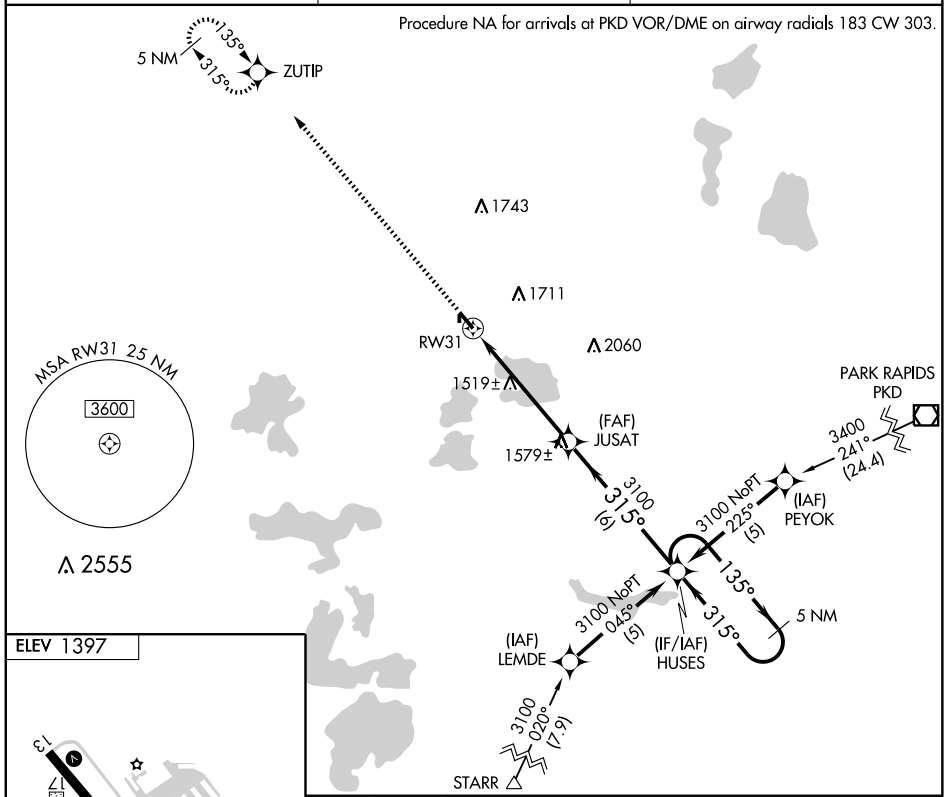
RNAV (GPS) RWY 31
DETROIT LAKES-WETHING FIELD (DTL)

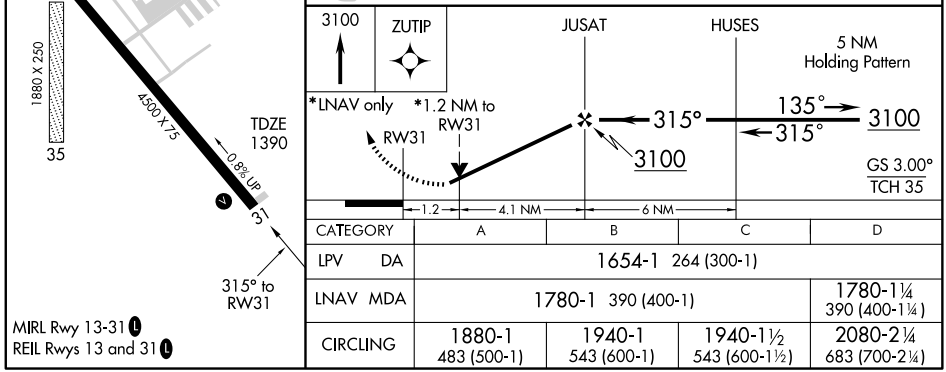
DME/DME RNP- 0.3 NA. Visibility reduction by helicopters NA.
VDP NA when using Park Rapids altimeter setting.
If local altimeter setting not received, use Park Rapids altimeter setting and increase DA/MDAs 100 feet.

MISSED APPROACH: Climb to 3100 direct ZUTIP and hold.

AWOS-3	PRINCETON RADIO	UNICOM
111.2	122.5	122.8 (CTAF) L

Procedure NA for arrivals at PKD VOR/DME on airway radials 183 CW 303.





CATEGORY	A	B	C	D
LPV DA	1654-1 264 (300-1)			
LNAV MDA	1780-1 390 (400-1)			1780-1¼ 390 (400-1¼)
CIRCLING	1880-1 483 (500-1)	1940-1 543 (600-1)	1940-1½ 543 (600-1½)	2080-2¼ 683 (700-2¼)

MIRL Rwy 13-31 L
REIL Rwys 13 and 31 L

VOR/DME DTL	APP CRS	Rwy ldg	4500
111.2	142°	TDZE	1396
Chan 49		Apt Elev	1396

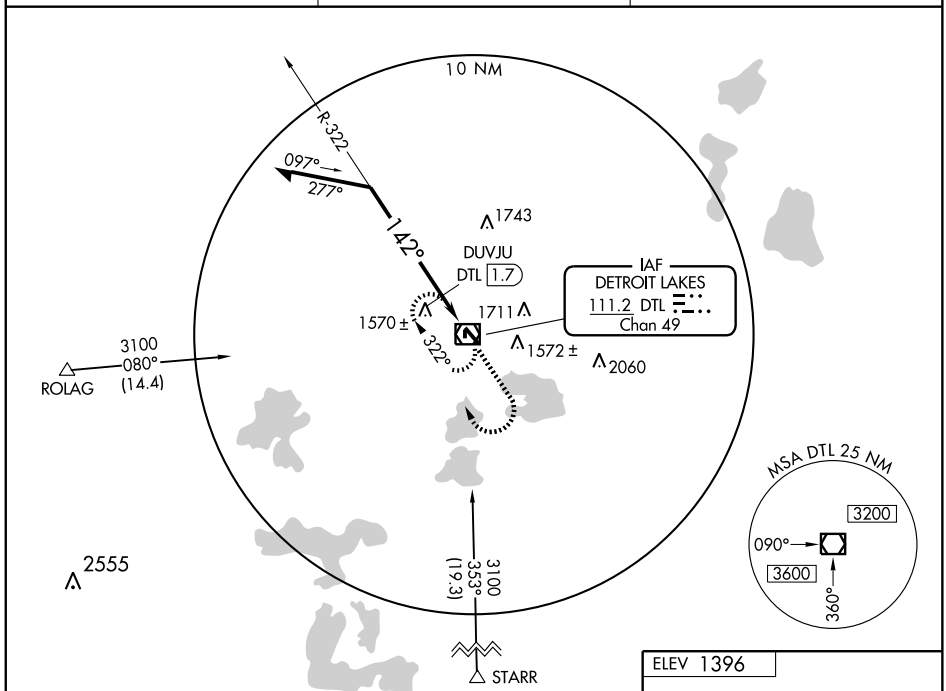
VOR RWY 13

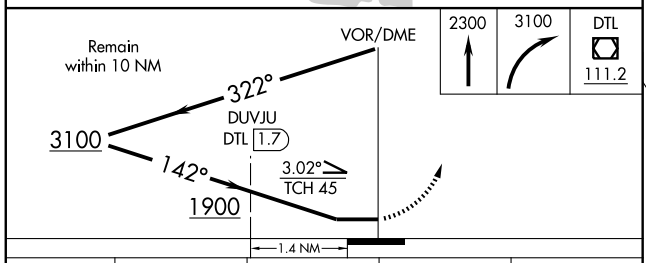
DETROIT LAKES-WETHING FIELD (DTL)

T
A NA

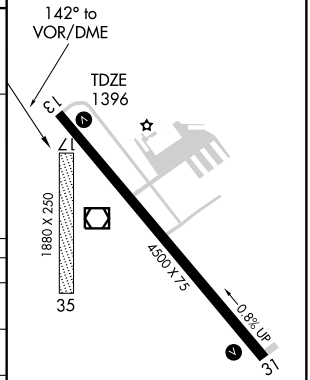
MISSED APPROACH: Climb to 2300 then climbing right turn to 3100 direct DTL VOR/DME and hold.

AWOS-3	PRINCETON RADIO	UNICOM
111.2	122.5	122.8 (CTAF) L





CATEGORY	A	B	C	D
S-13	1900-1 504 (600-1)		1900-1½ 504 (600-1½)	
CIRCLING	1900-1 504 (600-1)	1940-1 544 (600-1)	1940-1½ 544 (600-1½)	2080-2¼ 684 (700-2¼)
DUVJU FIX MINIMUMS				
S-13	1820-1 424 (500-1)		1820-1¼ 424 (500-1¼)	
CIRCLING	1880-1 424 (500-1)	1940-1 544 (600-1)	1940-1½ 544 (600-1½)	2080-2¼ 684 (700-2¼)



MIRL Rwy 13-31 L
REIL Rwys 13 and 31 L

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME DTL	APP CRS	Rwy ldg	4500
111.2	310°	TDZE	1388
Chan 49		Apt Elev	1396

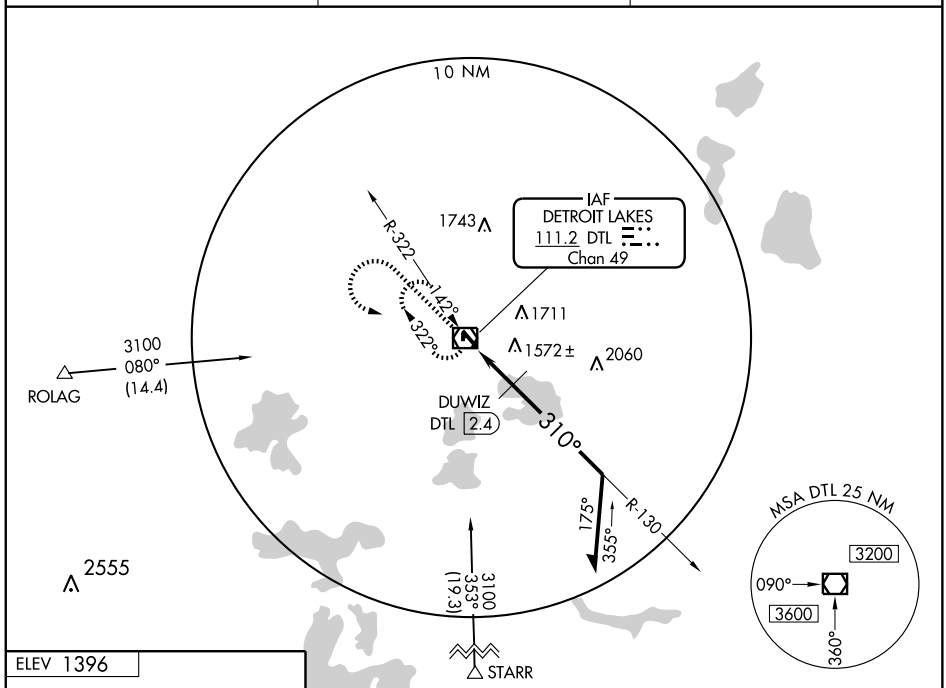
VOR RWY 31

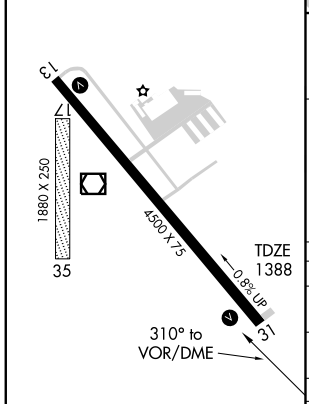
DETROIT LAKES-WETHING FIELD (DTL)

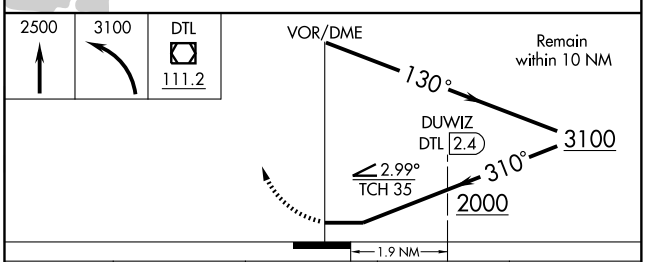
NA

MISSED APPROACH: Climb to 2500 then climbing left turn to 3100 direct DTL VOR/DME and hold.

AWOS-3	PRINCETON RADIO	UNICOM
111.2	122.5	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-31	2000-1 612 (700-1)		2000-1¾ 612 (700-1¾)	2000-2 612 (700-2)
CIRCLING	2000-1 604 (700-1)		2000-1¾ 604 (700-1¾)	2080-2¼ 684 (700-2¼)
DUWIZ FIX MINIMUMS				
S-31	1880-1 492 (500-1)		1880-1¼ 492 (500-1¼)	1880-1½ 492 (500-1½)
CIRCLING	1880-1 484 (500-1)	1940-1 544 (600-1)	1940-1½ 544 (600-1½)	2080-2¼ 684 (700-2¼)

MIRL Rwy 13-31 L
REIL Rwys 13 and 31 L

NC-1. 08 APR 2010 to 06 MAY 2010

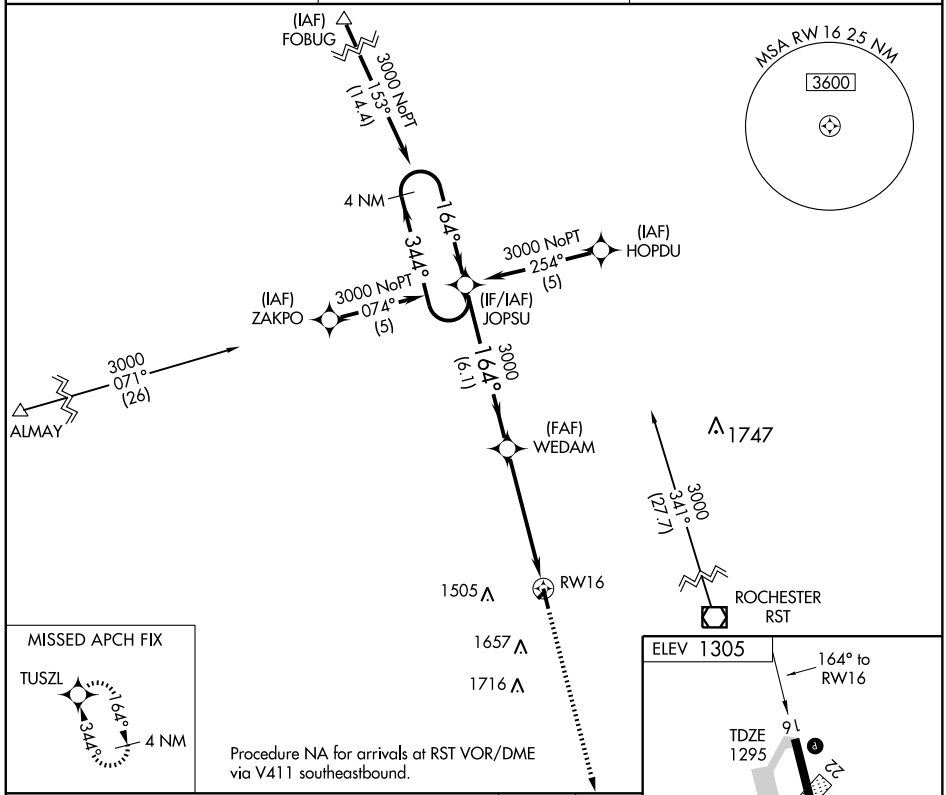
APP CRS	Rwy ldg	4500
164°	TDZE	1295
	Apt Elev	1305

RNAV (GPS) RWY 16
DODGE CENTER (TOB)

DME/DME RNP- 0.3 NA.
VDP NA with Rochester Intl altimeter setting.
When local altimeter setting not received, use Rochester Intl altimeter setting and increase all MDA 40 feet.

MISSED APPROACH: Climb to 3000 direct TUSZL and hold.

AWOS-3	ROCHESTER APP CON ★	CTAF
119.075	119.8 251.125	122.9 L



CATEGORY	A	B	C	D
LNAV MDA	1800-1 505 (500-1)		1800-1½ 505 (500-1½)	NA
CIRCLING	1960-1 655 (700-1)	1980-1 675 (700-1)	2000-2 695 (700-2)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

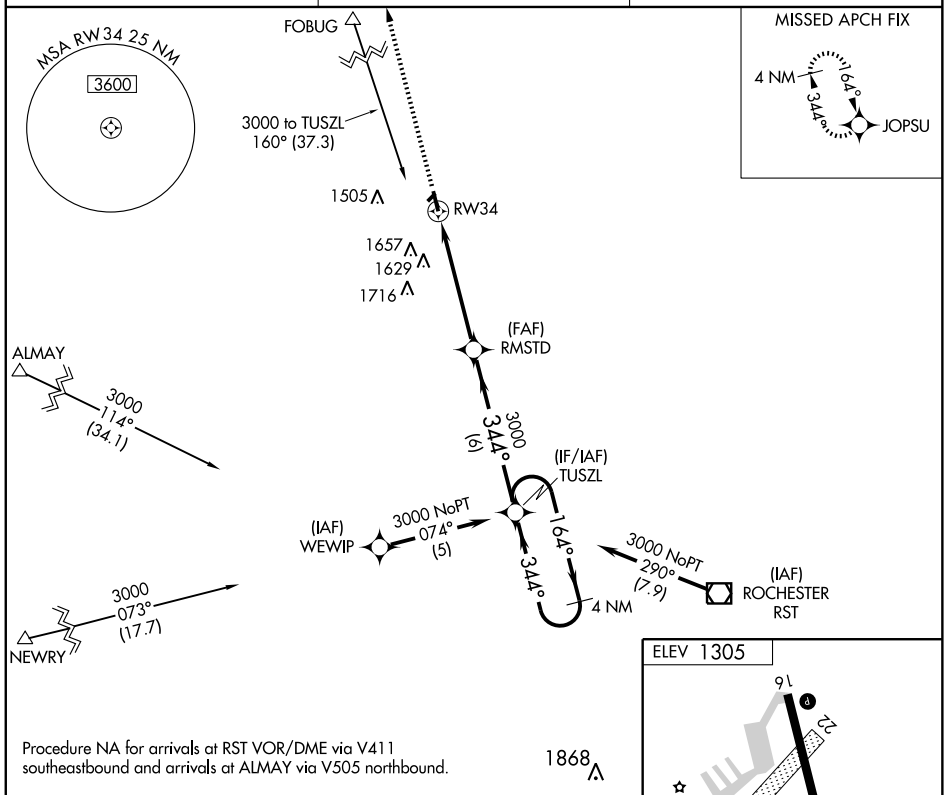
APP CRS		
344°	Rwy ldg	4500
	TDZE	1305
	Apt Elev	1305

RNAV (GPS) RWY 34
DODGE CENTER (TOB)

DME/DME RNP-0.3 NA.
When local altimeter setting not received, use Rochester Intl altimeter setting and increase all MDA 40 feet, LNAV Cat C visibility ¼ mile.
VDP NA with Rochester Intl altimeter setting.

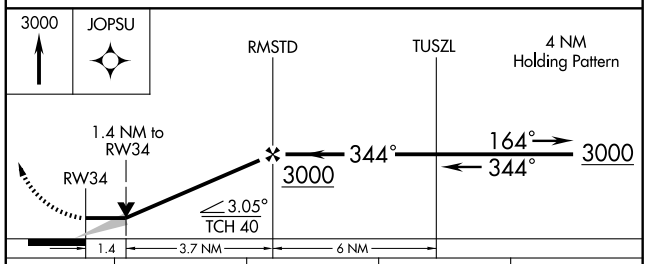
MISSED APPROACH: Climb to 3000 direct JOPSU and hold.

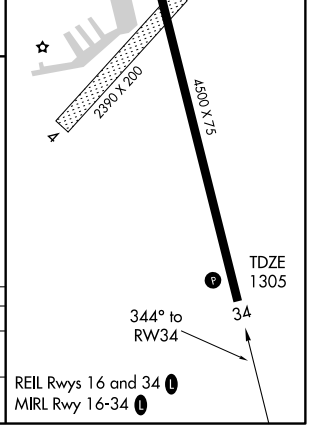
AWOS-3	ROCHESTER APP CON ★	CTAF
119.075	119.8 251.125	122.9 L



Procedure NA for arrivals at RST VOR/DME via V411 southeastbound and arrivals at ALMAY via V505 northbound.

1868





CATEGORY	A	B	C	D
LNAV MDA	1780-1 475 (500-1)		1780-1¼ 475 (500-1¼)	NA
CIRCLING	1960-1 655 (700-1)	1980-1 675 (700-1)	2000-2 695 (700-2)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

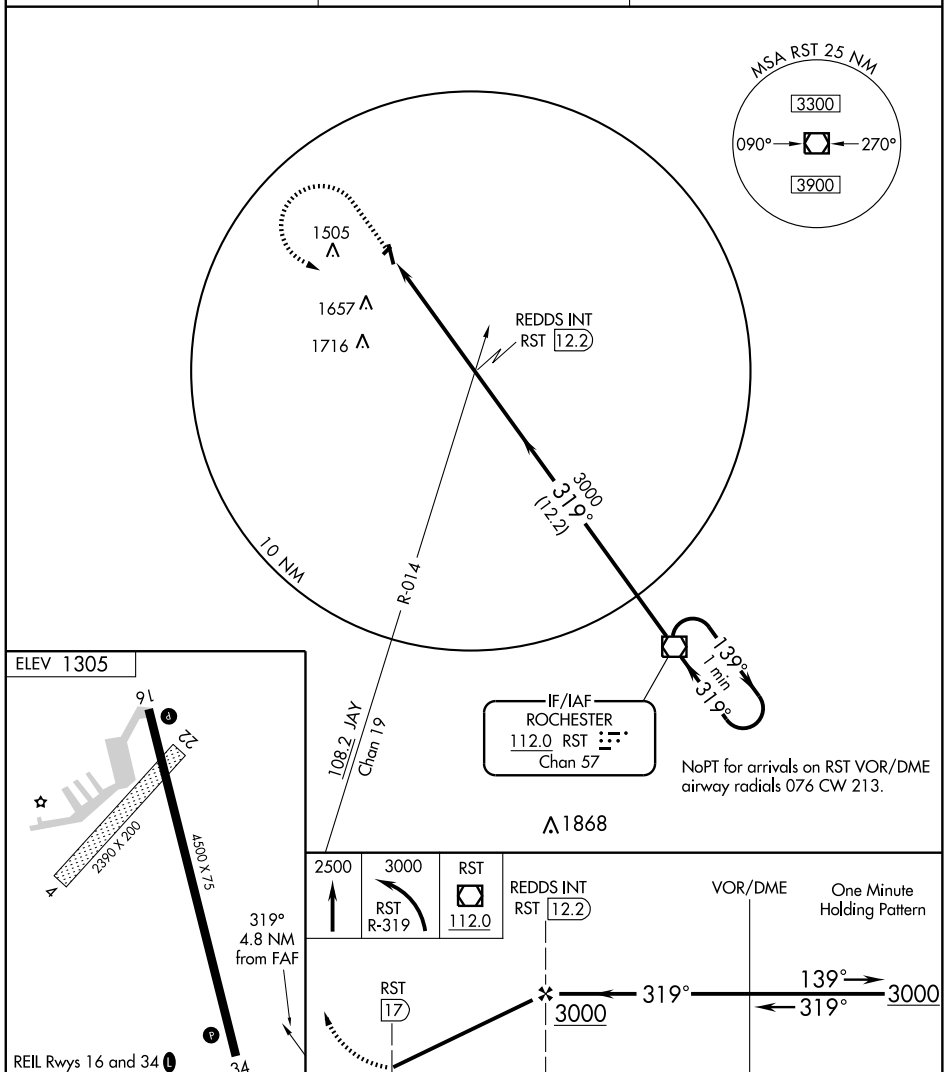
VOR/DME RST	APP CRS	Rwy ldg	N/A
112.0	319°	TDZE	N/A
Chan 57		Apt Elev	1305

VOR-A
DODGE CENTER (TOB)

When local altimeter setting not received, use Rochester Intl altimeter setting and increase all MDA 40 feet.

MISSED APPROACH: Climb to 2500 then climbing left turn to 3000 via RST VOR/DME R-319 to RST VOR/DME and hold.

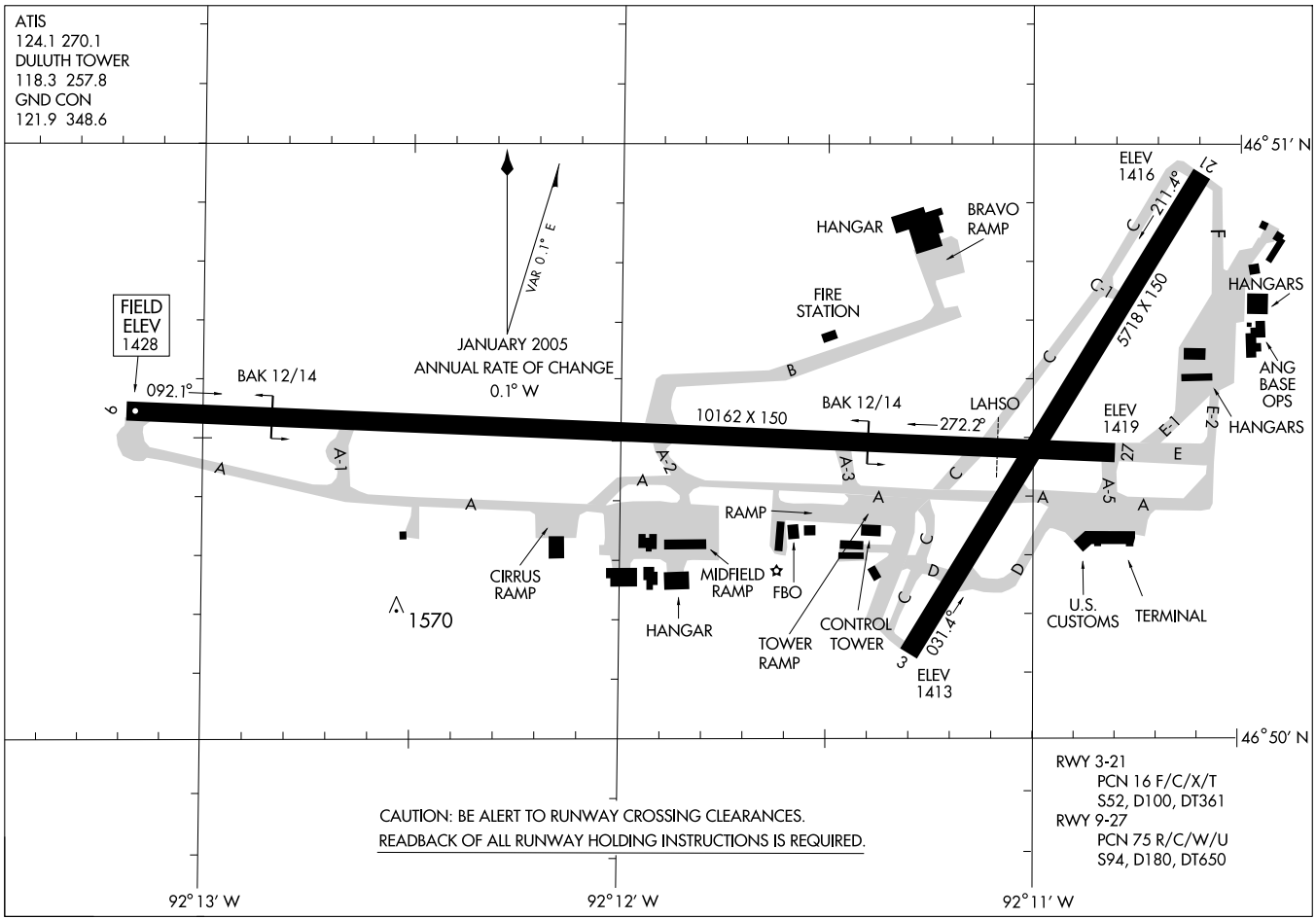
AWOS-3	ROCHESTER APP CON ★	CTAF
119.075	119.8 251.125	122.9 L



FAF to MAP 4.8 NM					
Knots	60	90	120	150	180
Min:Sec	4:48	3:12	2:24	1:55	1:36

CATEGORY	A	B	C	D
CIRCLING	1960-1 655 (700-1)	1980-1 675 (700-1)	2000-2 695 (700-2)	NA

NC-1. 08 APR 2010 to 06 MAY 2010


ATIS
124.1 270.1
DULUTH TOWER
118.3 257.8
GND CON
121.9 348.6
AIRPORT DIAGRAM
AL-125 (FAA)
DULUTH INTL (DLH)
DULUTH, MINNESOTA
46° 51′ N
46° 50′ N
92° 13′ W
92° 12′ W
92° 11′ W
VAR 0.1° E
JANUARY 2005
ANNUAL RATE OF CHANGE
0.1° W
FIELD
ELEV
1428
092.1°
BAK 12/14
10162 X 150
BAK 12/14
272.2°
LAHSO
ELEV
1416
211.4°
5718 X 150
ELEV
1419
031.4°
ELEV
1413
HANGAR
BRAVO
RAMP
FIRE
STATION
HANGARS
ANG
BASE
OPS
HANGARS
RAMP
CIRRUS
RAMP
MIDFIELD
RAMP
FBO
HANGAR
TOWER
RAMP
CONTROL
TOWER
U.S.
CUSTOMS
TERMINAL
1570
RWY 3-21
PCN 16 F/C/X/T
S52, D100, DT361
RWY 9-27
PCN 75 R/C/W/U
S94, D180, DT650
CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

AL-125 (FAA)

LOC I-JUD	APP CRS	Rwy ldg	10162
108.7	270°	TDZE	1421
		Apt Elev	1428

COPTER ILS or LOC RWY 27

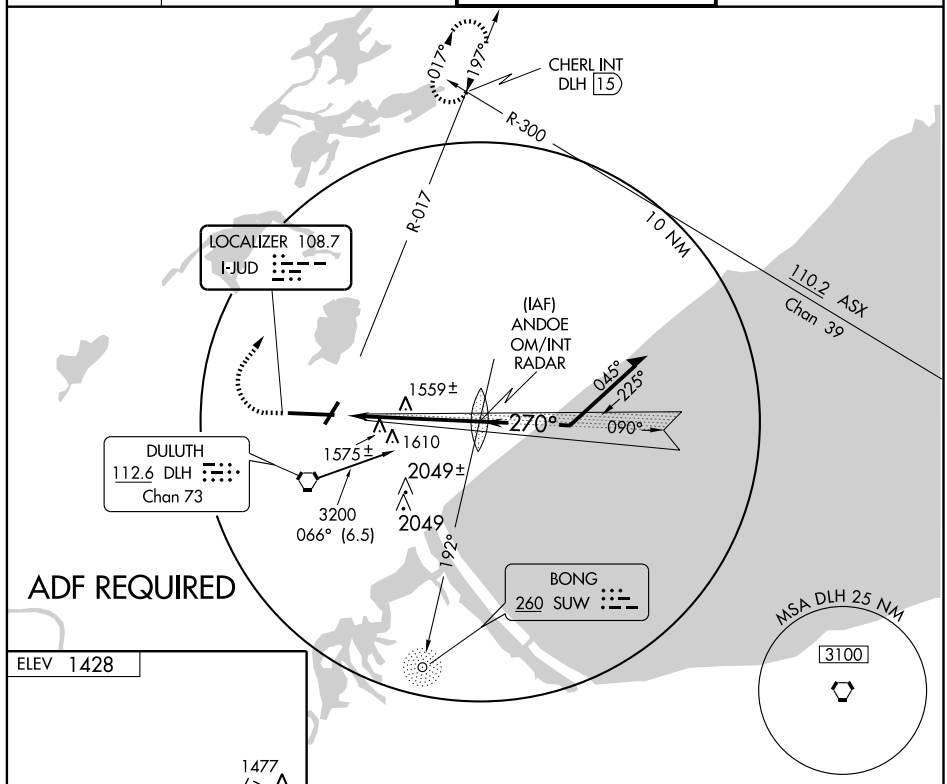
DULUTH INTL (DLH)

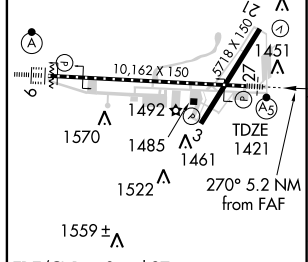
ASR: For inoperative MALSR increase RVR to 2400.

MALSR (A5)

MISSED APPROACH: Climb to 3000 then climbing right turn to 4500 via DLH R-017 to CHERL Int/DLH 15 DME and hold.

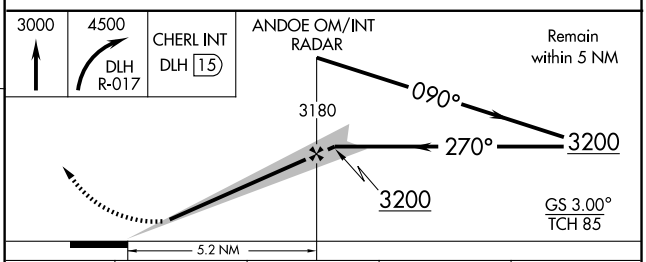
ATIS	DULUTH APP CON ★	DULUTH TOWER	GND CON
124.1 270.1	125.45 255.9	118.3 257.8	121.9 348.6





TDZ/CL Rwy 9 and 27
REIL Rwys 3 and 21
HIRL Rwys 3-21 and 9-27

FAF to MAP 5.2 NM					
Knots	45	60	75	90	105
Min:Sec	6:56	5:12	4:10	3:28	2:58



CATEGORY	COPTER	B	C	D
S-ILS 27	1621/16 200 (200-¼)	NA		
S-LOC 27	1820/16 399 (400-¼)	NA		
CIRCLING	NA			

NC-1, 08 APR 2010 to 06 MAY 2010

COPTER ILS RWY 9

LOC I-DLH	APCH CRS	Rwy ldg / TDZE / Arpt Elev
110.3	090°	10,162 / 1428 / 1428

AL-125 [USAF]

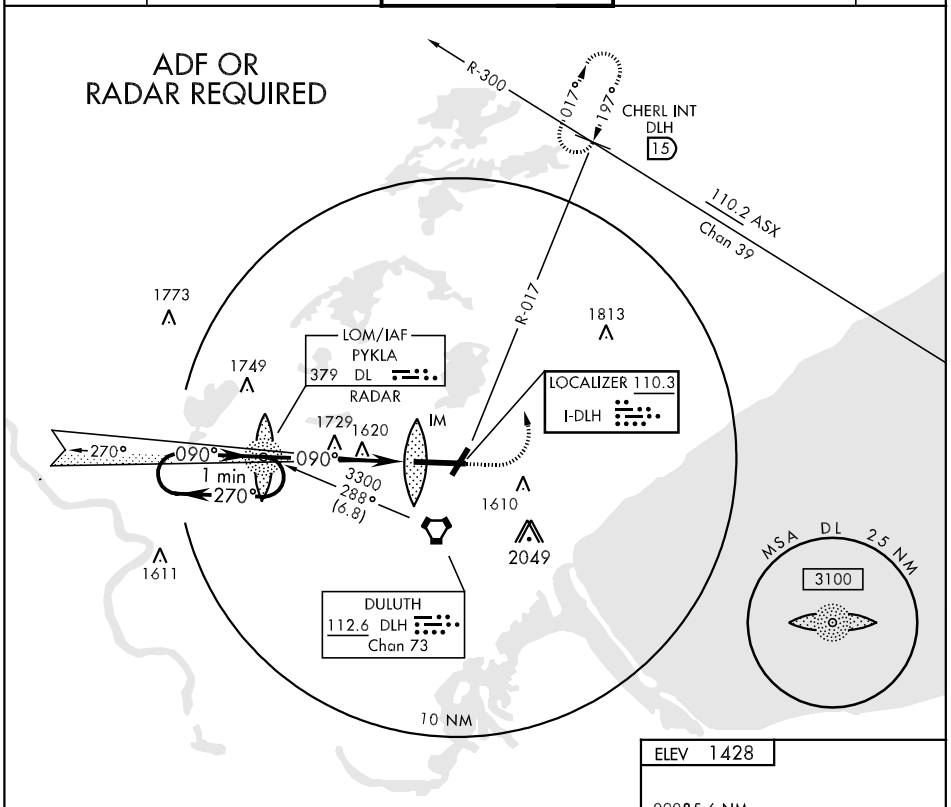
DULUTH INTL (KDLH)

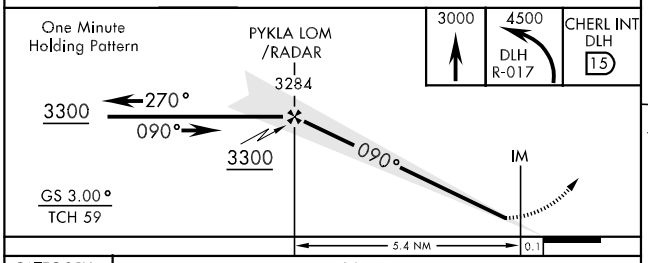
* When ALS inop, increase RVR to 24 and vis to ½ mile.

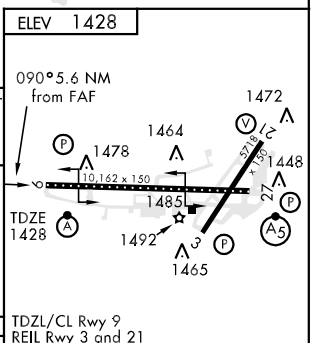
ALSF-2

MISSED APPROACH: Climb to 3000 then climbing left turn to 4500 via DLH R-017 to CHERL INT/DLH 15 DME and hold.

ATIS	DULUTH APP CON	DULUTH TOWER	GND CON	ASR
124.1 270.1	125.45 255.9	118.3 257.8	121.9 348.6	







CATEGORY	COPTER		
S-ILS 9 *	1628/12	200	(200-¼)
S-LOC 9 *	1880/12	452	(500-¼)

FAF to MAP 5.6 NM					
Knots	45	60	75	90	105
Min:Sec	7:28	5:36	4:29	3:44	3:12

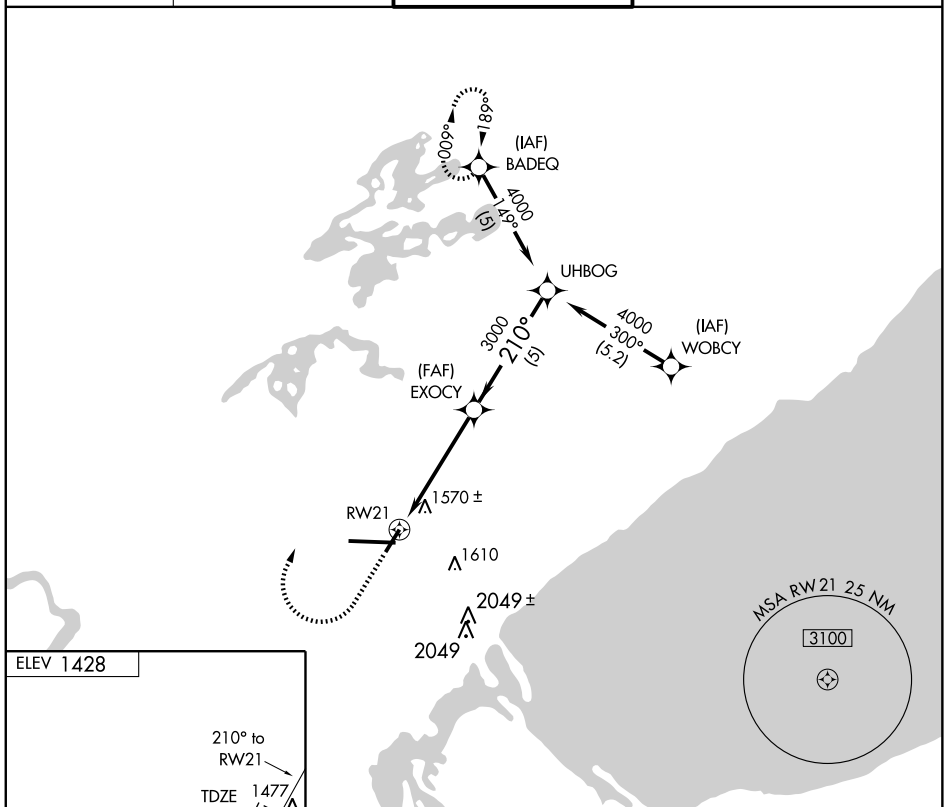
APP CRS	Rwy ldg	5718
210°	TDZE	1420
	Apt Elev	1428

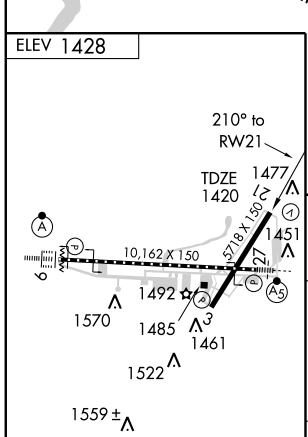
GPS RWY 21
DULUTH INTL (DLH)

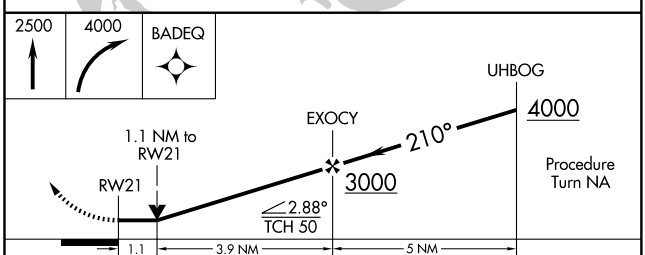
NA
ASR

MISSED APPROACH: Climb to 2500, then climbing right turn to 4000 direct BADEQ WP and hold.

ATIS	DULUTH APP CON ★	DULUTH TOWER	GND CON
124.1 270.1	125.45 255.9	118.3 257.8	121.9 348.6







CATEGORY	A	B	C	D
S-21	1820-1 400 (400-1)			1820-1¼ 400 (400-1¼)
CIRCLING	1920-1 492 (500-1)		1920-1½ 492 (500-1½)	1980-2 552 (600-2)

REIL Rwys 3 and 21
HIRL Rwys 3-21 and 9-27
TDZ/CL Rwy 9 and 27

NC-1. 08 APR 2010 to 06 MAY 2010

HI-TACAN RWY 9

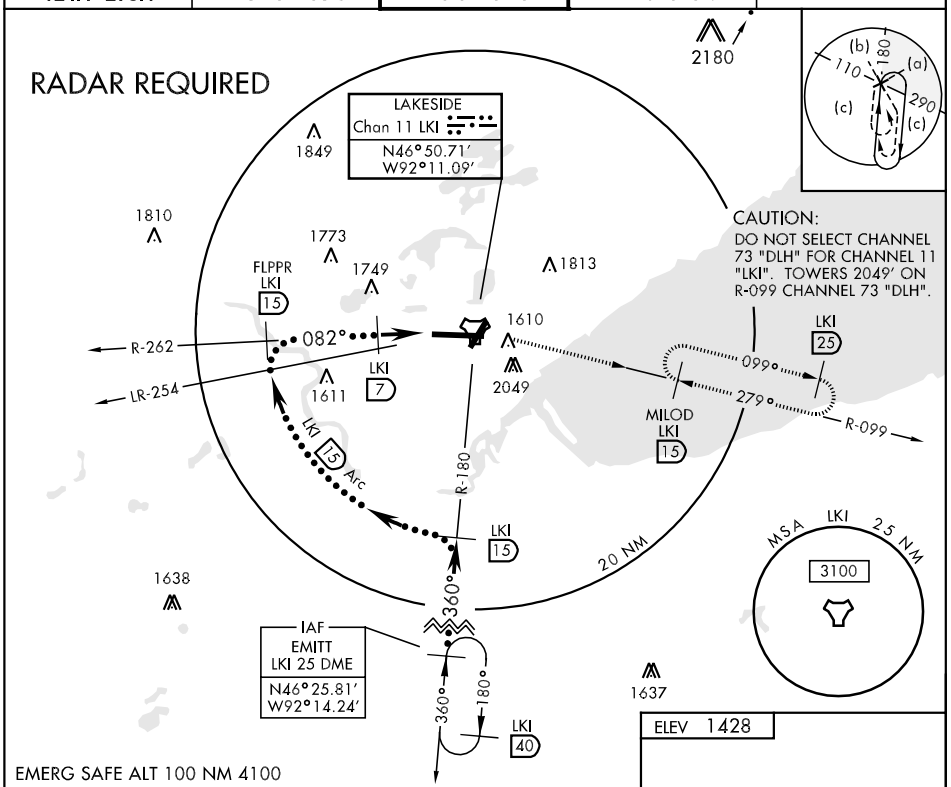
TACAN LKI Chan 11	APCH CRS 082°	Rwy ldg 10,162 TDZE 1428 Arpt Elev 1428	JAL-125 [USAF]	DULUTH INTL (KDLH)

* Category E not authorized SE of Rwy 3 and Rwy 27.

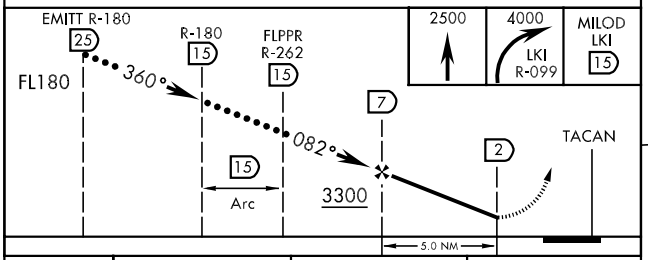
ALSF-2

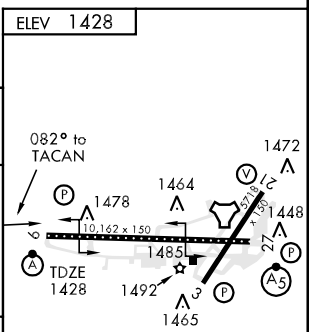
MISSED APPROACH: Climb to 2500 then climbing right turn to 4000 via LKI R-099 to MILOD 15 DME and hold.

ATIS	DULUTH APP CON	DULUTH TOWER	GND CON	ASR
124.1 270.1	125.45 255.9	118.3 257.8	121.9 348.6	



EMERG SAFE ALT 100 NM 4100





CATEGORY	C	D	E
S-9	1880/40 452 (500-¾)	1880/50 452	(500-1)
CIRCLING *	1920-1½ 492 (500-1½)	1980-2 552	(600-2)
S-ASR 9	1880/40 452 (500-¾)	1880/50 452	(500-1)

TDZL/CL Rwy 9
REIL Rwy 3 and 21
HIRL Rwy 3-21 and 9-27

HI-TACAN RWY 27

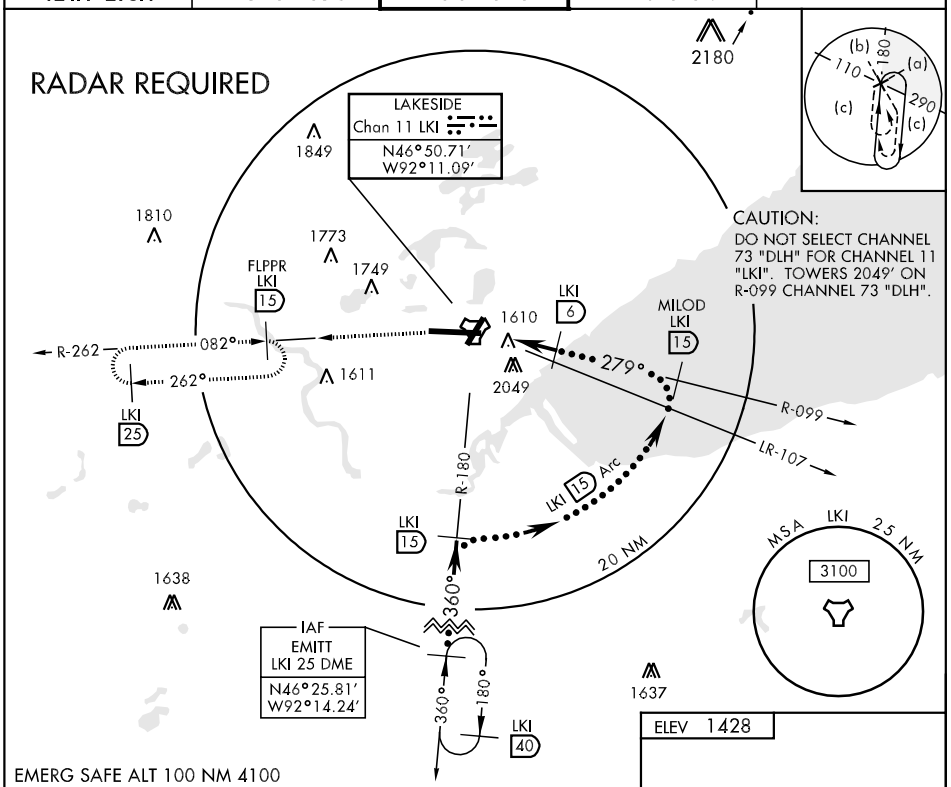
TACAN LKI Chan 11	APCH CRS 279°	Rwy ldg 10,162 TDZE 1421 Arpt Elev 1428	JAL-125 [USAF]	DULUTH INTL (KDLH)

* Category E not authorized SE of Rwy 3 and Rwy 27.

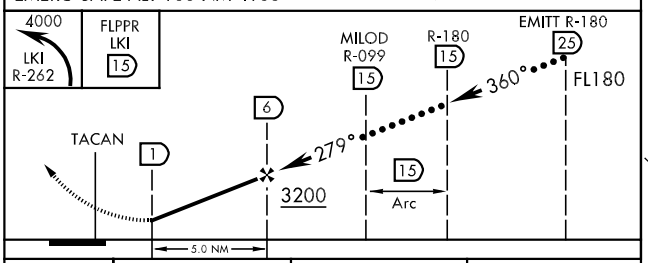
MALSR A5

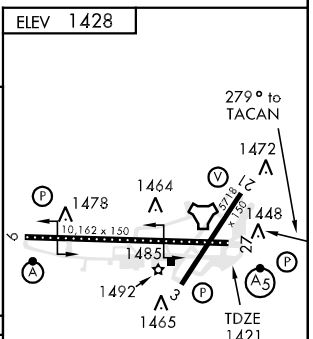
MISSED APPROACH: Climb to 4000 via LKI R-262 to FLPPR 15 DME and hold.

ATIS	DULUTH APP CON	DULUTH TOWER	GND CON	ASR
124.1 270.1	125.45 255.9	118.3 257.8	121.9 348.6	



EMERG SAFE ALT 100 NM 4100





CATEGORY	C	D	E
S-27	1860/40 439 (500-¾)	1860/50 439	(500-1)
CIRCLING *	1920-1½ 492 (500-1½)	1980-2 552	(600-2)
S-ASR 27	1860/40 439 (500-¾)	1860/50 439	(500-1)

TDZL/CL Rwy 9
REIL Rwy 3 and 21
HIRL Rwy 3-21 and 9-27

LOC I-JUD	APP CRS	Rwy ldg	10162
108.7	270°	TDZE	1421
		Apt Elev	1428

ILS or LOC RWY 27
DULUTH INTL (DLH)

ASR: Circling NA for Cat E southeast of Rwys 3 and 27. For inoperative MALSR, increase S-ILS 27 Cat E visibility to RVR 4000 and S-LOC 27 Cat E visibility to 1¼ mile.

MALSR A5

MISSED APPROACH: Climb to 3000 then climbing right turn to 4500 via DLH VORTAC R-017 to CHERL INT/DLH 15 DME and hold.

ATIS	DULUTH APP CON ★	DULUTH TOWER	GND CON
124.1 270.1	125.45 255.9	118.3 257.8	121.9 348.6

ADF, DME or RADAR REQUIRED

(IAF) FOSUP DLH 15
CHERL INT DLH 15
017° 197°
15 NM
LOCALIZER 108.7 I-JUD
R-009 R-017
(IAF) ANDOE INT/OM RADAR
3200 NoPT DLH 15 Arc
R-300
1559± 1610
3200 LR-070 270° (8.8)
045° 225°
090°
110.2 ASX Chan 39
3200 to ANDOE 066° (6.5)
1575± 2049±
2049
192°
LR-086
(IF) WIRSA DLH 15
DULUTH 112.6 DLH Chan 73
R-182
3200 NoPT DLH 15 Arc
BONG 260 SUW
MSA DLH 25 NM
3100
(IAF) DAYAR DLH 15

ELEV 1428

1477 21 1451 27 9 10,162 X 150 5718 X 150
1492 1570 1485 1461 3 TDZE 1421 1522 1559±
270° 5.2 NM from FAF

TDZ/CL Rwy 9 and 27
REIL Rwys 3 and 21
HIRL Rwys 3-21 and 9-27

FAF to MAP 5.2 NM					
Knots	60	90	120	150	180
Min:Sec	5:12	3:28	2:36	2:05	1:44

3000 | 4500 DLH R-017 | CHERL INT DLH 15

GS unusable for coupled approach below 2550′.

VGSI and ILS glidepath not coincident.

ANDOE INT/OM RADAR
Remain within 15 NM
090°
3180
WIRSA DLH 15
270° 3200
3200
3200
GS 3.00° TCH 85
5.2 NM 8.8 NM

CATEGORY	A	B	C	D	E
S-ILS 27	1621/24 200 (200-½)		1651/24 230 (300-½)		
S-LOC 27	1820/24 399 (400-½)			1820/40 399 (400-¾)	1820/50 399 (400-1)
CIRCLING	1920-1 492 (500-1)		1920-1½ 492 (500-1½)	1980-2 552 (600-2)	

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-DLH	APP CRS	Rwy ldg	10162
110.3	090°	TDZE	1428
		Apt Elev	1428

ILS RWY 9
DULUTH INTL (DLH)

ASR

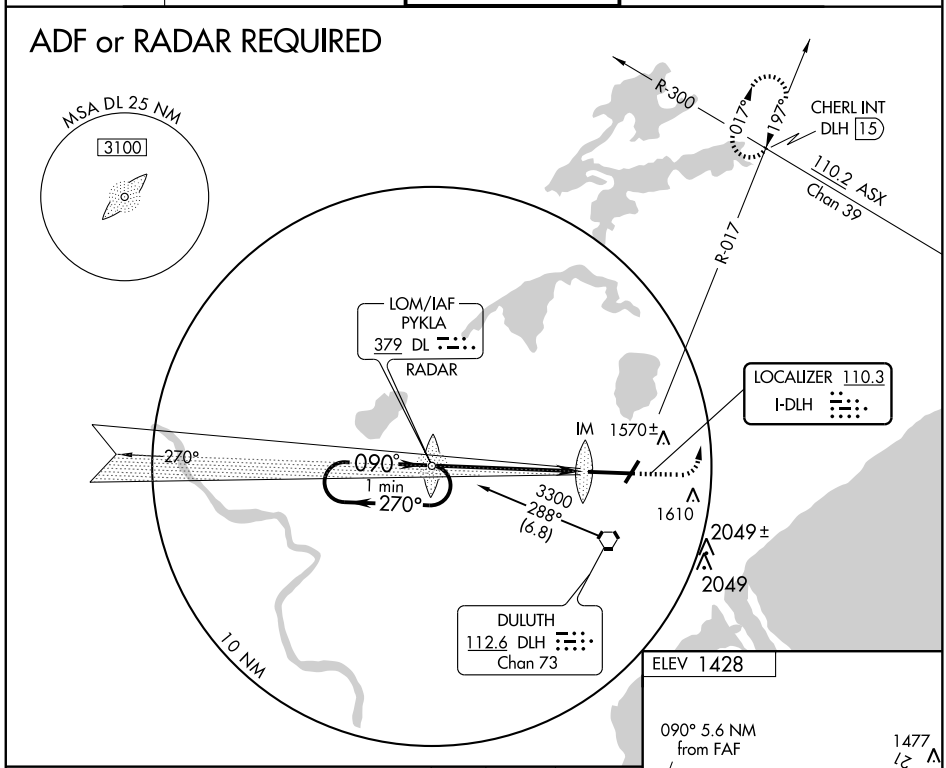
Cat E Circling not authorized southeast of Runways 3 and 27.

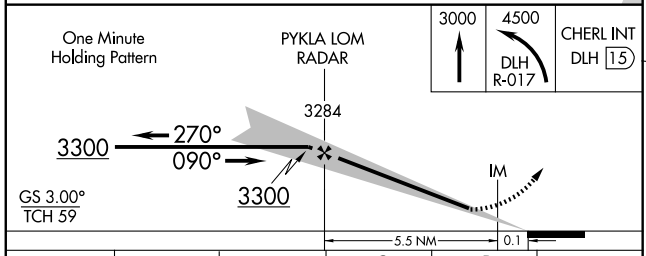
ALSF-2

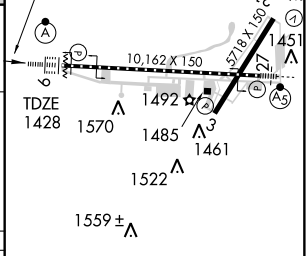
MISSED APPROACH: Climb to 3000 then climbing left turn to 4500 via DLH R-017 to CHERL Int/DLH 15 DME and hold.

ATIS	DULUTH APP CON ★	DULUTH TOWER	GND CON
124.1 270.1	125.45 255.9	118.3 257.8	121.9 348.6

ADF or RADAR REQUIRED







TDZ/CL Rwy 9 and 27
REIL Rwys 3-21 and 9-27

CATEGORY	A	B	C	D	E
S-ILS 9	1628/18 200 (200-½)				1628/24 200 (200-½)
S-LOC 9	1880/24 452 (500-½)		1880/40 452 (500-¾)	1880/50 452 (500-1)	
CIRCLING	1920-1 492 (500-1)		1920-1½ 492 (500-½)	1980-2 552 (600-2)	

FAF to MAP 5.6 NM					
Knots	60	90	120	150	180
Min:Sec	5:36	3:44	2:48	2:14	1:52

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-DLH	APP CRS	Rwy ldg	10162
110.3	090°	TDZE	1428
		Apt Elev	1428

ILS RWY 9 (CAT II)
DULUTH INTL (DLH)

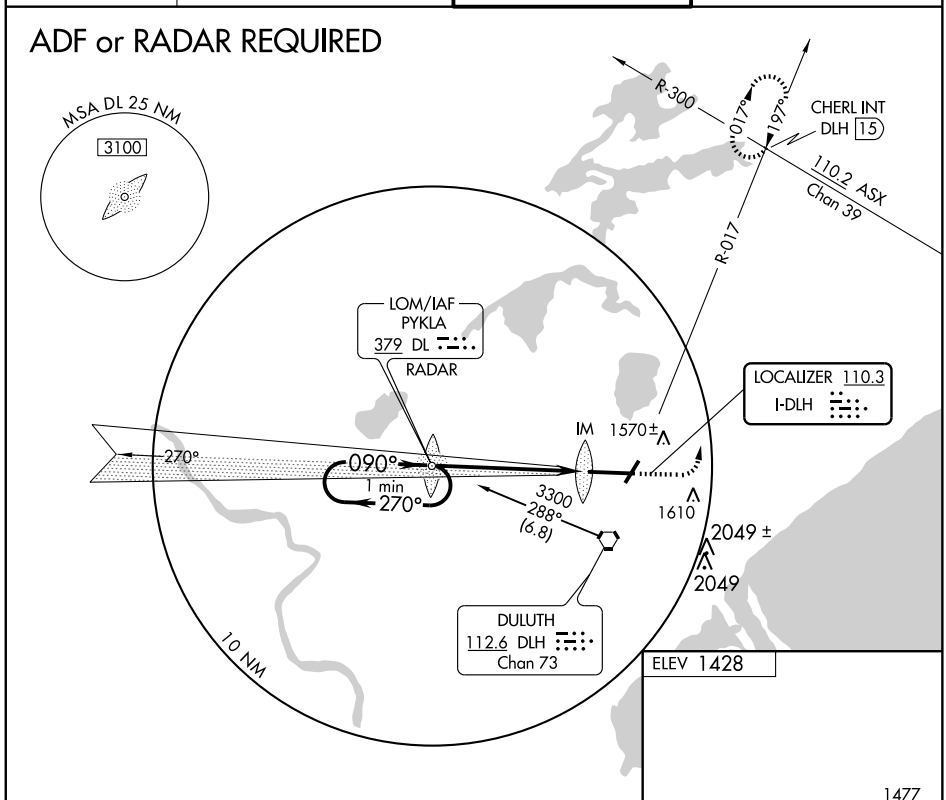
ASR

ALSF-2

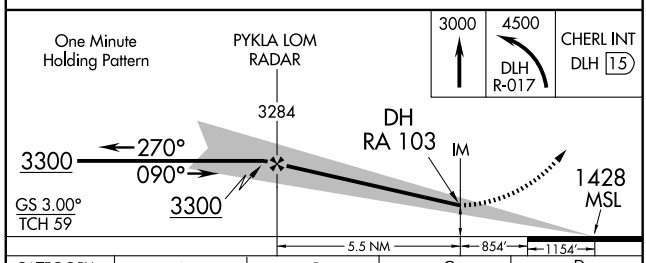
MISSED APPROACH: Climb to 3000 then climbing left turn to 4500 via DLH R-017 to CHERL Int/DLH 15 DME and hold.

ATIS	DULUTH APP CON *	DULUTH TOWER	GND CON
124.1 270.1	125.45 255.9	118.3 257.8	121.9 348.6

ADF or RADAR REQUIRED

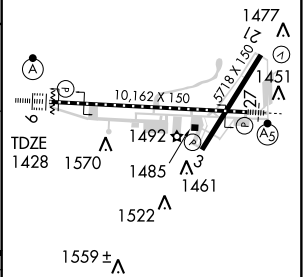


ELEV 1428



CATEGORY	A	B	C	D
S-ILS 9	RA 103/12 100 DA 1528			

CATEGORY II ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED



TDZ/CL Rwy 9 and 27
REIL Rwys 3-21 and 9-27
HIRL Rwys 3-21 and 9-27

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 90502 W09A	APP CRS 090°	Rwy ldg 10162 TDZE 1428 Apt Elev 1428

RNAV (GPS) RWY 9
DULUTH INTL (DLH)

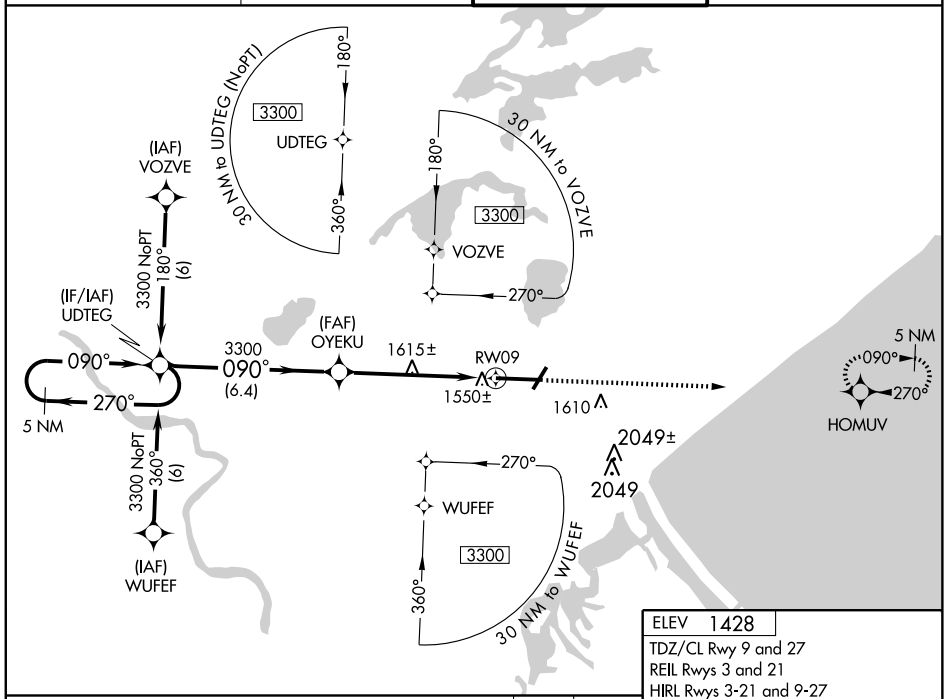
ASR

DME/DME RNP-0.3 NA. Circling NA for Cat. E SE of Rwys 3 and 27.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (115°F).
For inoperative ALSF-2, increase LPV Cat. E visibility to ¾, LNAV/VNAV all Cats visibility to 1½ and LNAV Cat. E visibility to 1½.

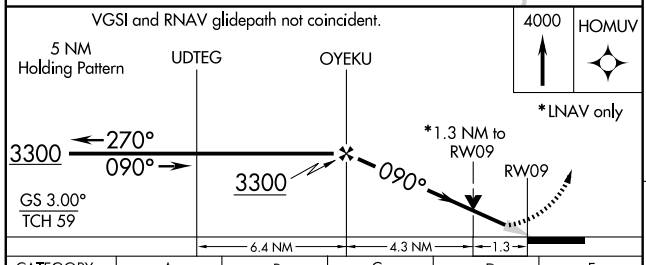
ALSF-2

MISSED APPROACH: Climb to 4000 direct HOMUV and hold.

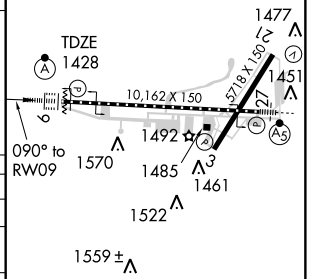
ATIS	DULUTH APP CON*	DULUTH TOWER	GND CON
124.1 270.1	125.45 255.9	118.3 257.8	121.9 348.6



VGSI and RNAV glidepath not coincident.



ELEV 1428
TDZ/CL Rwy 9 and 27
REIL Rwys 3 and 21
HIRL Rwys 3-21 and 9-27



CATEGORY	A	B	C	D	E
LPV DA	1628/24 200 (200-½)				
LNAV/VNAV DA	1860/50 432 (500-1)				
LNAV MDA	1880/24 452 (500-½)		1880/40 452 (500-¾)	1880/50 452 (500-1)	
CIRCLING	1920-1½ 492 (500-1½)			1980-2 552 (600-2)	

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 50502 W27A	APP CRS 270°	Rwy ldg 10162 TDZE 1421 Apt Elev 1428

RNAV (GPS) RWY 27
DULUTH INTL (DLH)

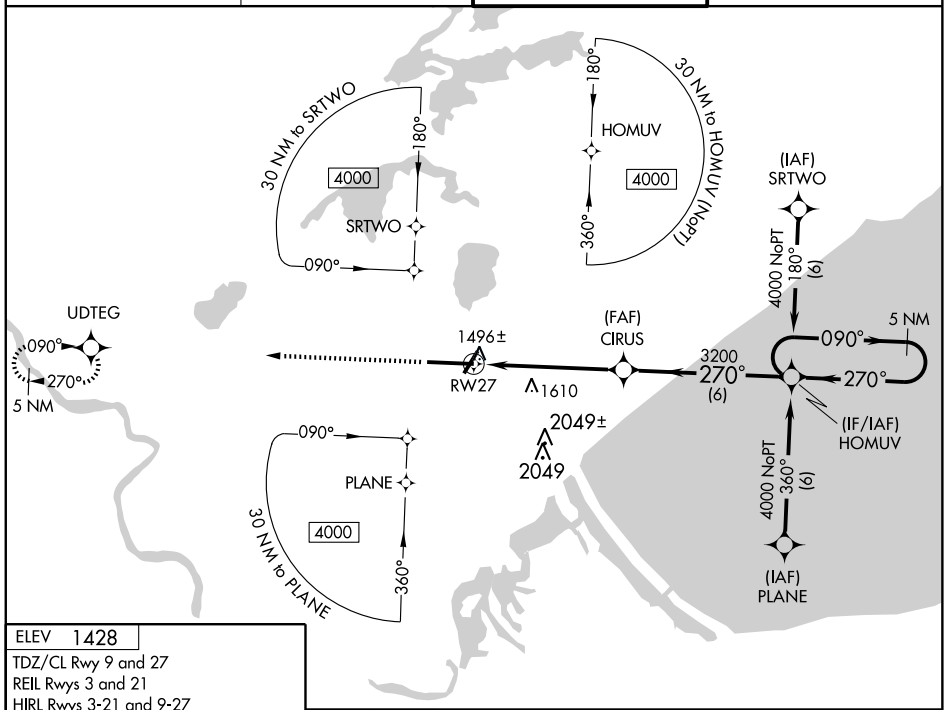
ASR

DME/DME RNP- 0.3 NA. Circling NA for Cat. E SE of Rwys 3 and 27.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (115°F).
For inoperative MALSR, increase LPV Cat. E visibility to RVR 4000, LNAV/VNAV Cat. E visibility to RVR 6000, and LNAV Cat. E visibility to 1¾.

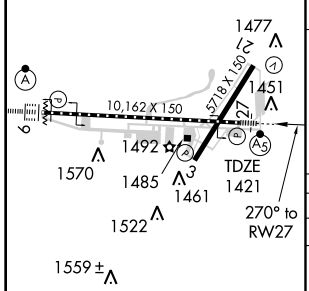
MALSR

MISSED APPROACH: Climb to 3300 direct UDTEG and hold.

ATIS	DULUTH APP CON *	DULUTH TOWER	GND CON
124.1 270.1	125.45 255.9	118.3 257.8	121.9 348.6

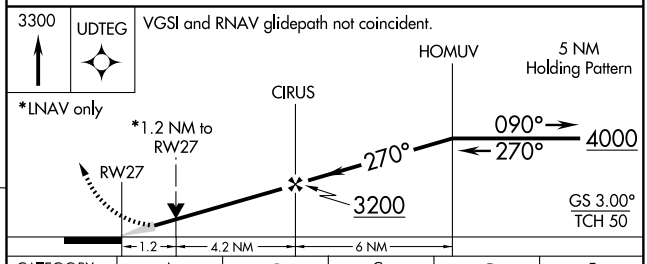


ELEV 1428
TDZ/CL Rwy 9 and 27
REIL Rwys 3 and 21
HIRL Rwys 3-21 and 9-27



3300 UDTEG

VGSI and RNAV glidepath not coincident.



CATEGORY	A	B	C	D	E
LPV DA	1671/24 250 (300-½)				
LNAV/VNAV DA	1746/40 325 (400-¾)				
LNAV MDA	1900/24 479 (500-½)		1900/40 479 (500-¾)	1900/50 479 (500-1)	1900/60 479 (500-1¼)
CIRCLING	1920-1¼ 492 (500-1¼)		1920-1½ 492 (500-1½)	1980-2 552 (600-2)	

NC-1. 08 APR 2010 to 06 MAY 2010

TACAN RWY 9

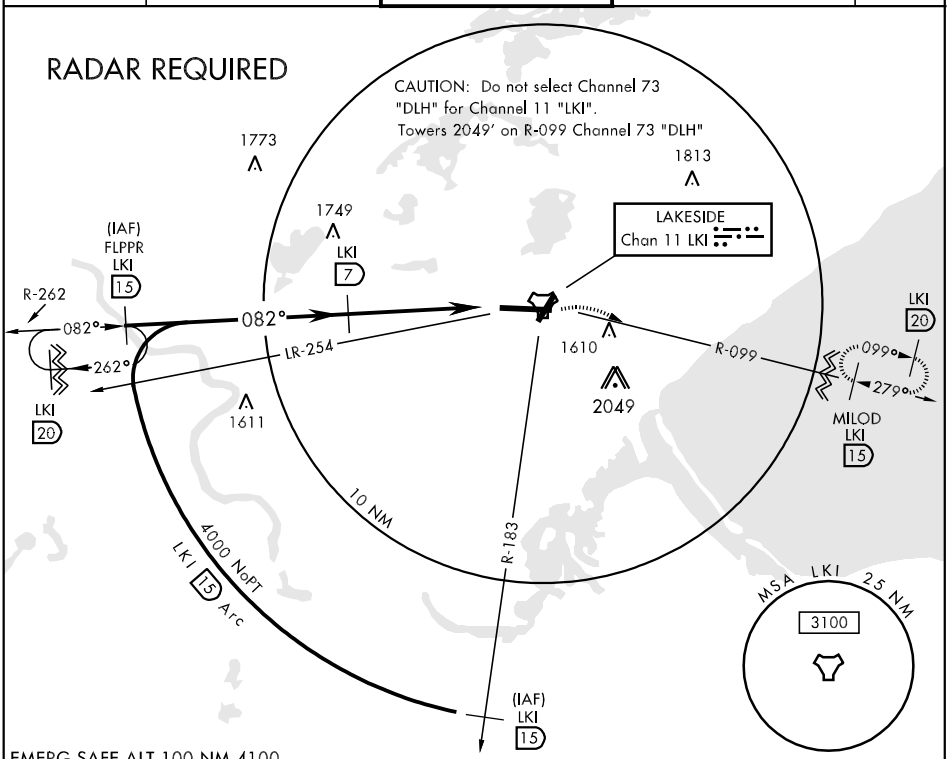
TACAN LKI Chan 11	APCH CRS 082°	Rwy ldg 10,162 TDZE 1428 Arpt Elev 1428	AL-125 [USAF]	DULUTH INTL (KDLH)

* Category E not authorized SE Rwy 3 and Rwy 27.

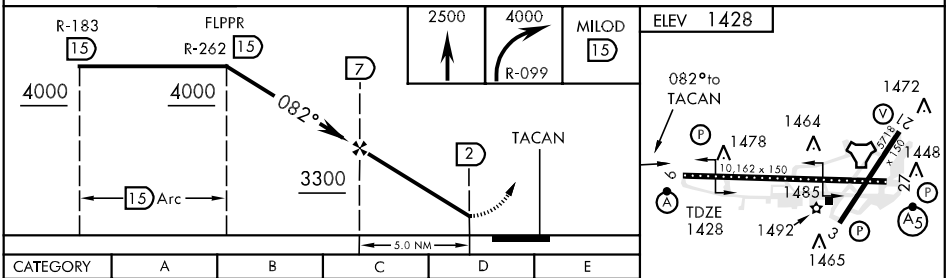
ALSF-2

MISSED APPROACH: Climb to 2500 then climbing right turn to 4000 via LKI R-099 to MILOD 15 DME and hold.

ATIS	DULUTH APP CON	DULUTH TOWER	GND CON	ASR
124.1 270.1	125.45 255.9	118.3 257.8	121.9 348.6	



EMERG SAFE ALT 100 NM 4100



CATEGORY	A	B	C	D	E
S-9	1880/24 452 (500-½)		1880/40 452 (500-¾)	1880/50 452 (500-1)	
CIRCLING *	1920-1 492 (500-1)		1920-1½ 492 (500-1½)	1980-2 552 (600-2)	
S-ASR 9	1880/24 452 (500-½)		1880/40 452 (500-¾)	1880/50 452 (500-1)	

TDZL/CL Rwy 9
REIL Rwy 3 and 21
HIRL Rwy 3-21 and 9-27

TACAN RWY 27

TACAN LKI Chan 11	APCH CRS 279°	Rwy ldg 10,162 TDZE 1421 Arpt Elev 1428	AL-125 [USAF]	DULUTH INTL (KDLH)

* Category E not authorized SE Rwy 3 and Rwy 27.

MALSR A5

MISSED APPROACH: Climb to 4000 via R-262 to FLPPR 15 DME and hold.

ATIS	DULUTH APP CON	DULUTH TOWER	GND CON	ASR
124.1 270.1	125.45 255.9	118.3 257.8	121.9 348.6	

RADAR REQUIRED

CAUTION: Do not select Channel 73 "DLH" for Channel 11 "LKI". Towers 2049' on R-099 Channel 73 "DLH"

(IAF) LKI 15

LKI 15 Arc 4000 NoPT

R-360

1773

1813

1749

LAKESIDE Chan 11 LKI

FLPPR LKI 15

R-262

082°

262°

LKI 20

1611

1610

2049

LR-091

279°

LR-107

LKI 6

099°

279°

LKI 20

(IAF) MILOD LKI 15

R-099

R-200

10 NM

(IAF) LKI 15

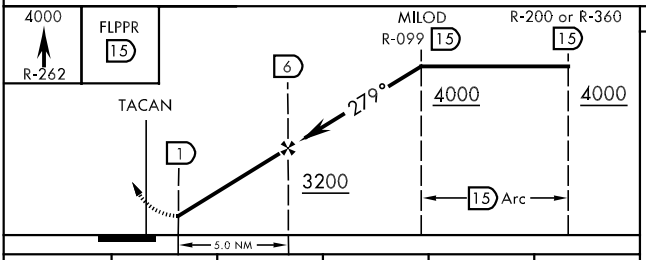
4000 NoPT

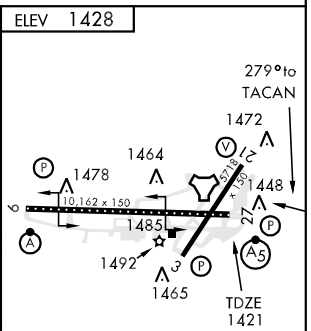
LKI 15 Arc

MSA LKI 25 NM

3100

EMERG SAFE ALT 100 NM 4100





CATEGORY	A	B	C	D	E
S-27	1860/24 439 (500-½)		1860/40 439 (500-¾)	1860/50 439 (500-1)	
CIRCLING *	1920-1 492 (500-1)		1920-1½ 492 (500-1½)	1980-2 552 (600-2)	
S-ASR 27	1860/24 439 (500-½)		1860/40 439 (500-¾)	1860/50 439 (500-1)	

VORTAC DLH 112.6 Chan 73	APP CRS 197°	Rwy ldg 5718 TDZE 1420 Apt Elev 1428

VOR/DME or TACAN RWY 21

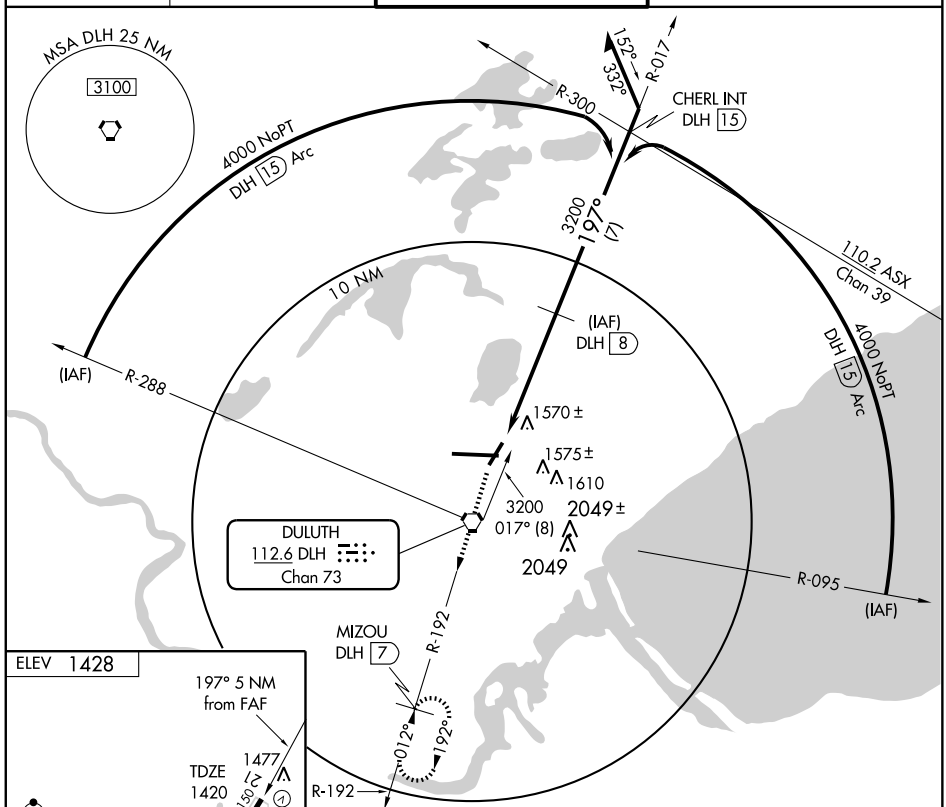
DULUTH INTL (DLH)

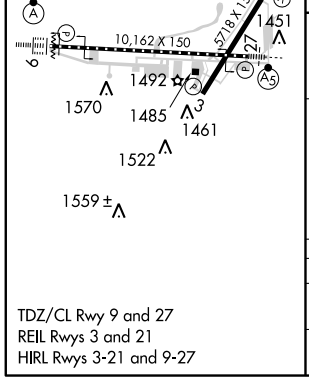
ASR

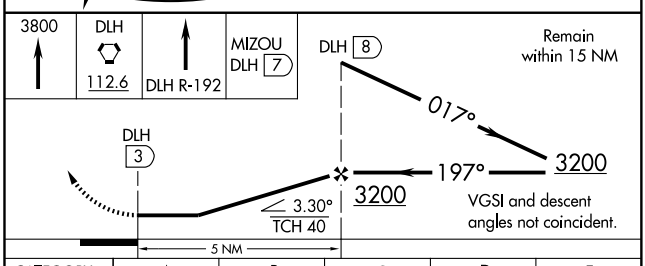
Cat E Circling not authorized southeast of Rwys 3 and 27.

MISSED APPROACH: Climb to 3800 via direct DLH VORTAC, then DLH R-192 to MIZOU 7 DME and hold.

ATIS	DULUTH APP CON *	DULUTH TOWER	GND CON
124.1 270.1	125.45 255.9	118.3 257.8	121.9 348.6







CATEGORY	A	B	C	D	E
S-21	1860-1 440 (500-1)		1860-1¼ 440 (500-1¼)	1860-1½ 440 (500-1½)	
CIRCLING	1920-1 492 (500-1)		1920-1½ 492 (500-1½)	1980-2 552 (600-2)	

TDZ/CL Rwy 9 and 27
REIL Rwys 3 and 21
HIRL Rwys 3-21 and 9-27

NC-1. 08 APR 2010 to 06 MAY 2010

VORTAC DLH 112.6 Chan 73	APP CRS 012°	Rwy ldg 5718 TDZE 1420 Apt Elev 1428

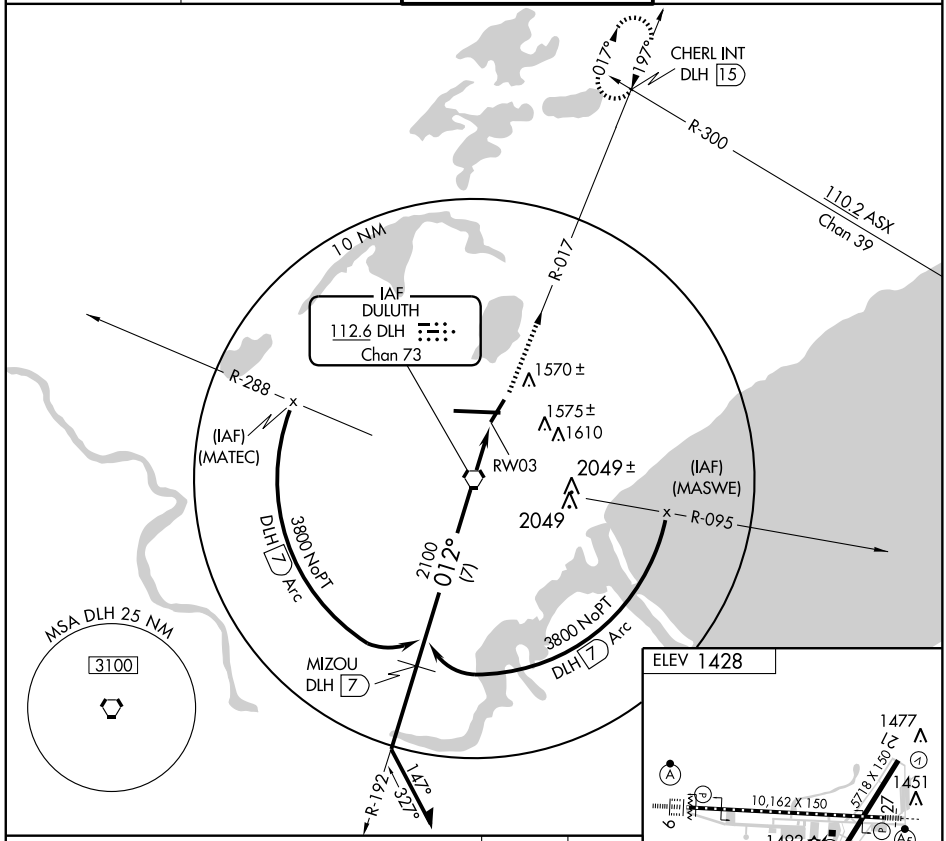
VOR or TACAN or GPS RWY 3

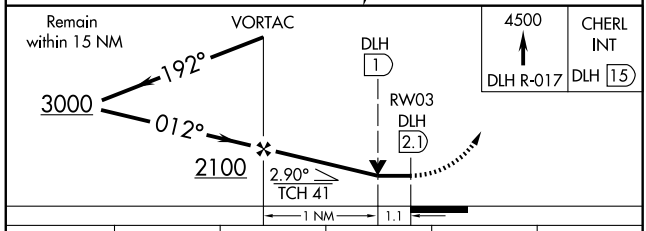
DULUTH INTL (DLH)

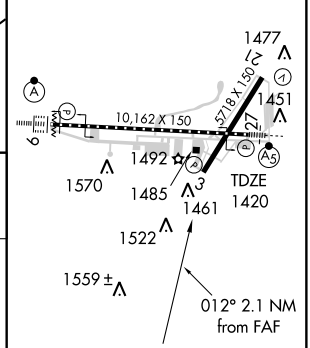
ASR Cat E Circling not authorized southeast of Rwys 3 and 27.

MISSED APPROACH: Climb to 4500 via DLH R-017 to CHERL INT/15 DME and hold.

ATIS	DULUTH APP CON ★	DULUTH TOWER	GND CON
124.1 270.1	125.45 255.9	118.3 257.8	121.9 348.6







TDZ/CL Rwy 9 and 27
REIL Rwys 3 and 21
HIRL Rwys 3-21 and 9-27

CATEGORY	A	B	C	D	E
S-3	1820-1 400 (400-1)			1820-1¼ 400 (400-1¼)	1820-1½ 400 (400-1½)
CIRCLING	1920-1 492 (500-1)		1920-1½ 492 (500-1½)	1980-2 552 (600-2)	

FAF to MAP 2.1 NM					
Knots	60	90	120	150	180
Min:Sec	2:06	1:24	1:03	0:50	0:42

NC-1. 08 APR 2010 to 06 MAY 2010

NDB SUW	APP CRS	Rwy ldg	N/A
260	052°	TDZE	N/A
		Apt Elev	610

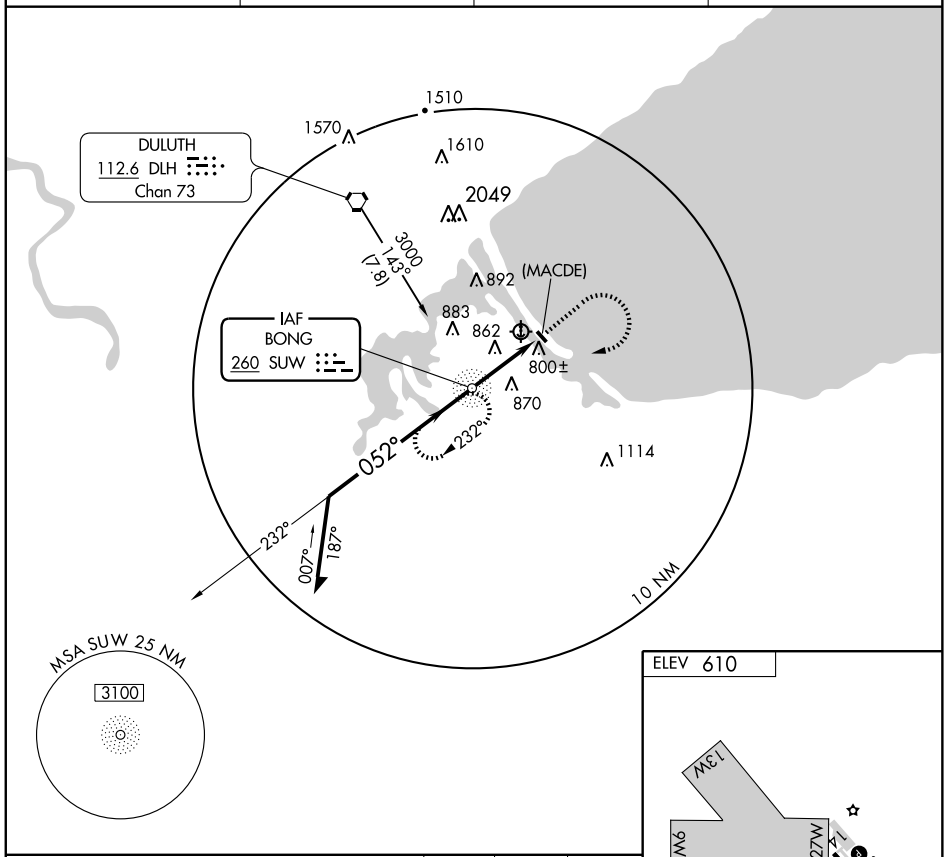
NDB or GPS-B

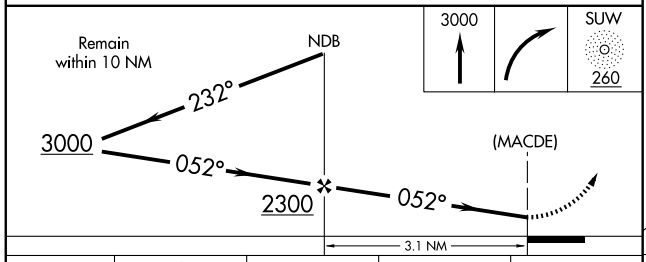
DULUTH/SKY HARBOR (DYT)

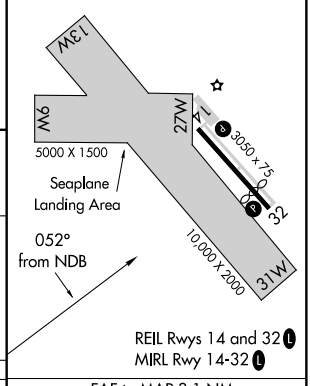
NA

MISSED APPROACH: Climb to 3000 then right turn direct SUW NDB and hold.

AWOS-3	DULUTH APP CON ★	CLNC DEL	UNICOM
119.275	125.45 255.9	124.8	122.7 (CTAF) L







CATEGORY	A	B	C	D
CIRCLING	1180-1 570 (600-1)		1180-1½ 570 (600-1½)	NA

FAF to MAP 3.1 NM

Knots	60	90	120	150	180
Min:Sec	3:06	2:04	1:33	1:14	1:02

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	2392
317°	TDZE	610
	Apt Elev	610

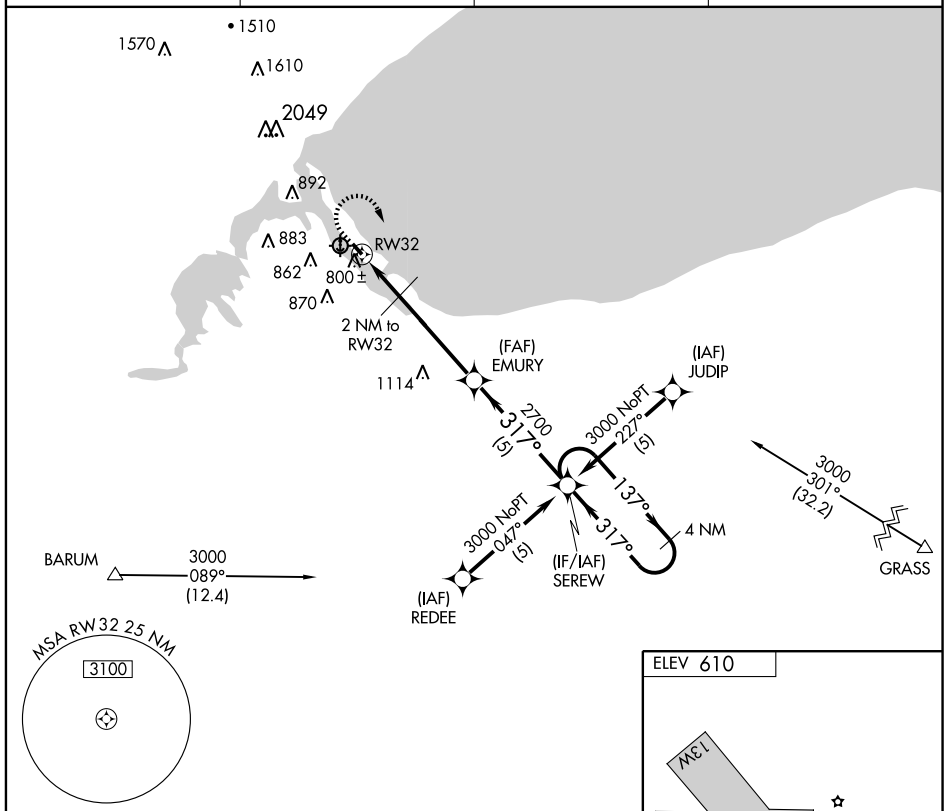
RNAV (GPS) RWY 32

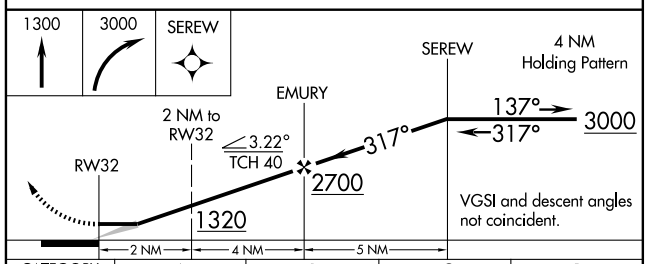
DULUTH/SKY HARBOR (DYT)

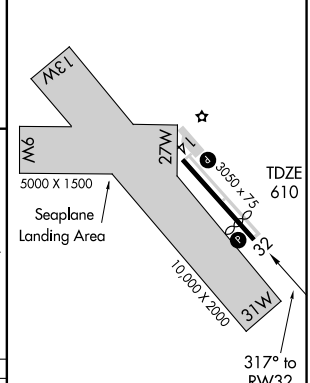
GPS or RNP-0.3 required.
DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 1300 then climbing right turn to 3000 direct SEREW WP and hold.

AWOS-3	DULUTH APP CON ★	CLNC DEL	UNICOM
119.275	125.45 255.9	124.8	122.7 (CTAF) L







CATEGORY	A	B	C	D
LNAV	1060-1	450 (500-1)	1060-1¼ 450 (500-1¼)	NA
CIRCLING	1100-1	490 (500-1)	1180-1½ 570 (600-1½)	NA

REIL Rwys 14 and 32 L
MIRL Rwy 14-32 L

NC-1. 08 APR 2010 to 06 MAY 2010

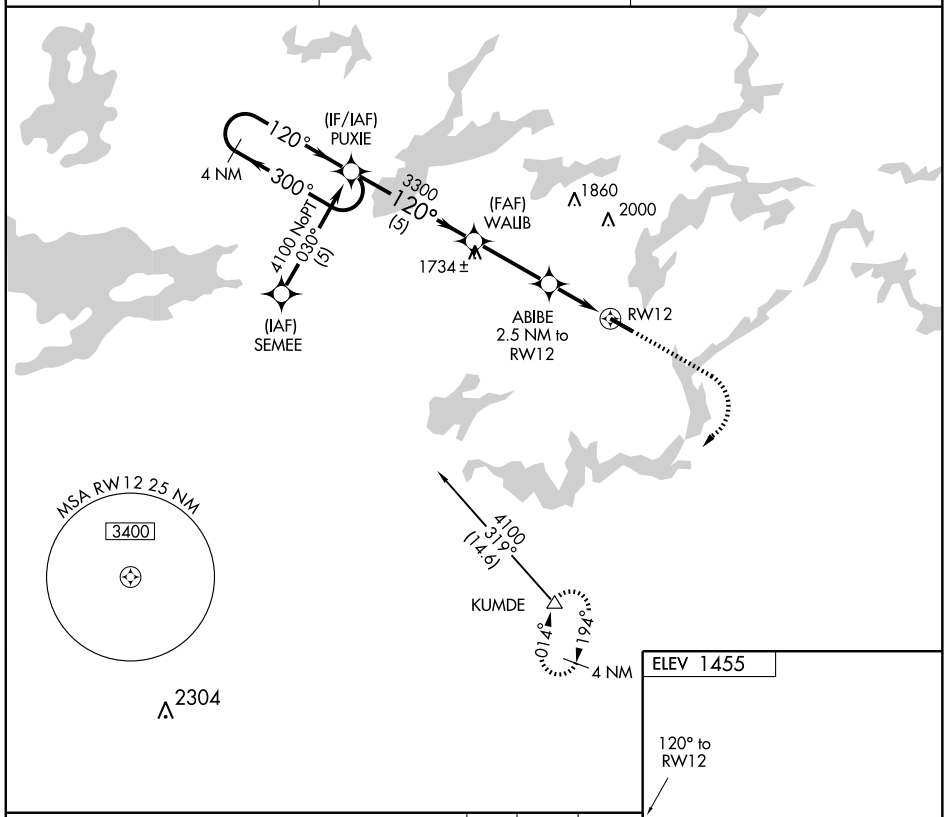
APP CRS	Rwy ldg	5600
120°	TDZE	1451
	Apt Elev	1455

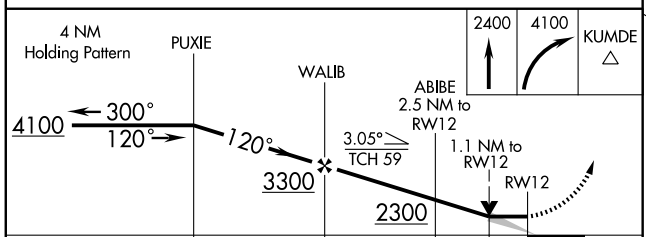
RNAV (GPS) RWY 12
ELY MUNI (ELO)

NA GPS or RNP -0.3 required. DME/DME RNP- 0.3 NA.

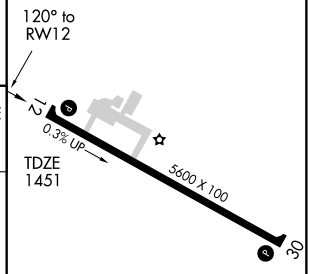
MISSED APPROACH: Climb to 2400 then climbing right turn to 4100 direct KUMDE WP and hold.

AWOS-3	PRINCETON RADIO	UNICOM
132.025	122.1R	122.8 (CTAF) L





ELEV 1455



CATEGORY	A	B	C	D
LNAV MDA	1840-1 389 (400-1)			1840-1¼ 389 (400-1¼)
CIRCLING	1920-1 465 (500-1)		1940-1½ 485 (500-1½)	2020-2 565 (600-2)

MIRL Rwy 12-30 L
REIL Rwys 12 and 30 L

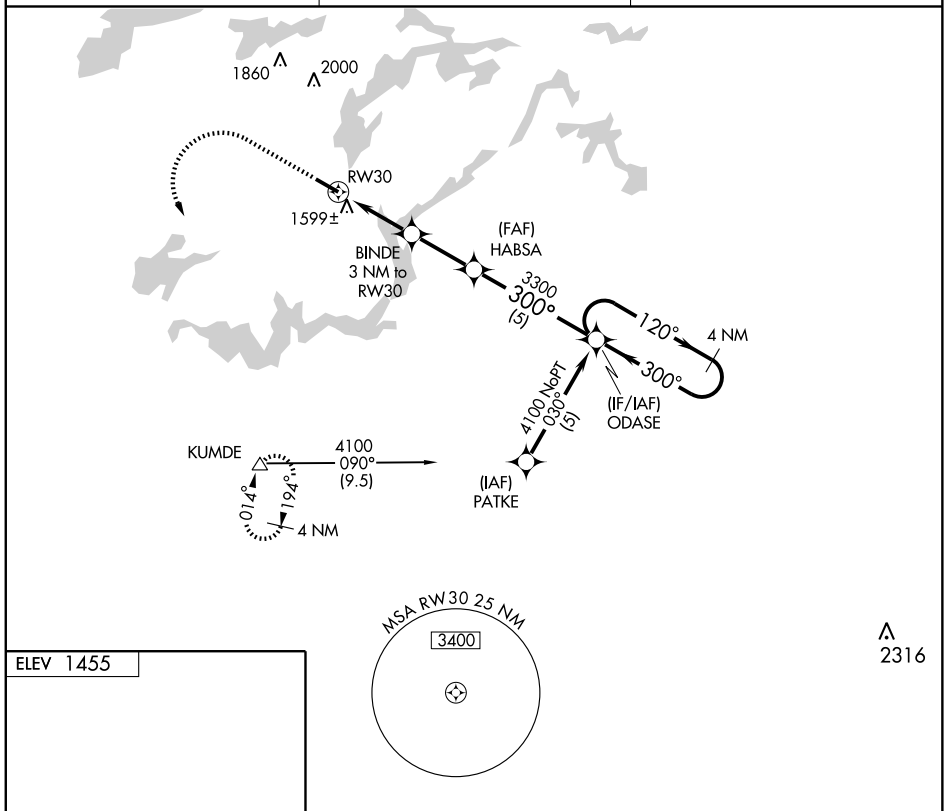
APP CRS	Rwy ldg	5600
300°	TDZE	1455
	Apt Elev	1455

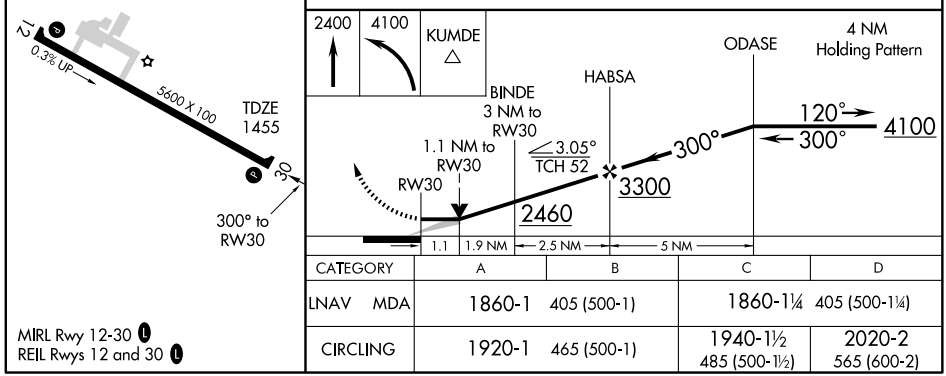
RNAV (GPS) RWY 30
ELY MUNI (ELO)

NA GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 2400 then climbing left turn to 4100 direct KUMDE WP and hold.

AWOS-3	PRINCETON RADIO	UNICOM
132.025	122.1R	122.8 (CTAF) L





CATEGORY	A	B	C	D
LNAV MDA	1860-1 405 (500-1)		1860-1¼ 405 (500-1¼)	
CIRCLING	1920-1 465 (500-1)		1940-1½ 485 (500-1½)	2020-2 565 (600-2)

MIRL Rwy 12-30 L
REIL Rwys 12 and 30 L

NC-1. 08 APR 2010 to 06 MAY 2010

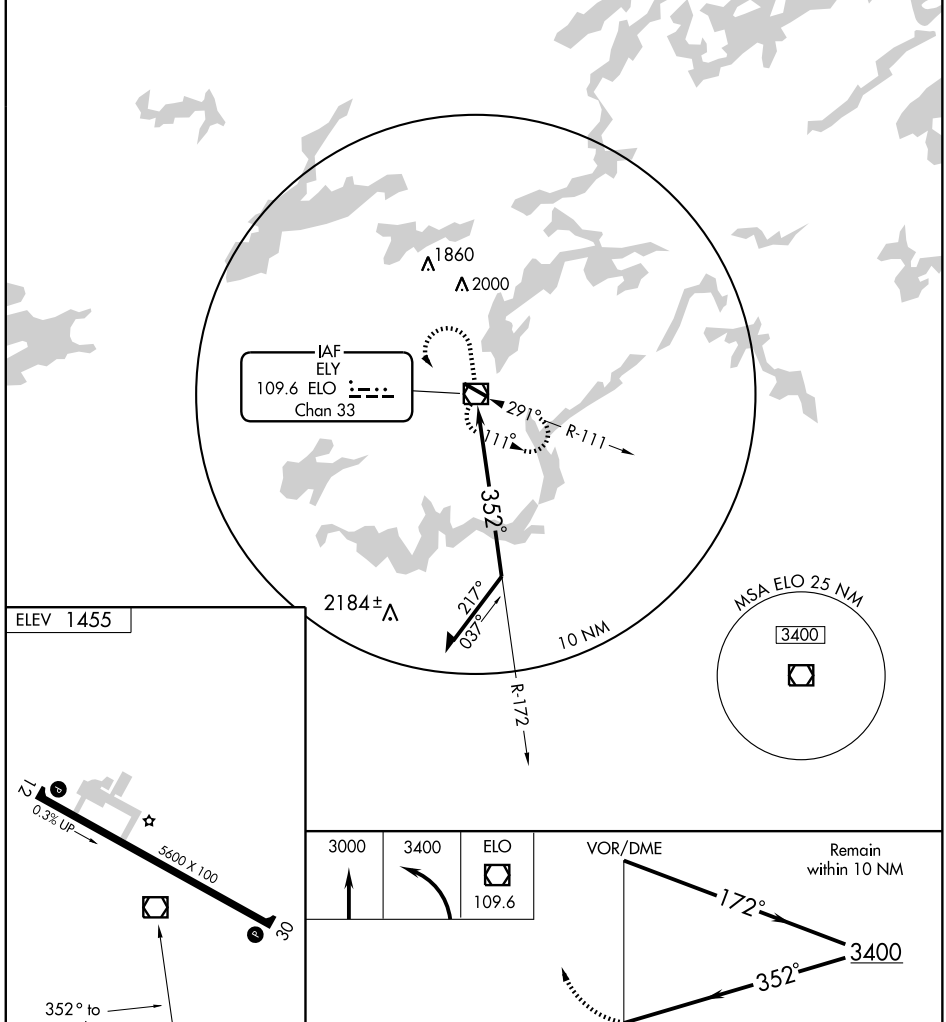
VOR/DME ELO	APP CRS	Rwy ldg	N/A
109.6	352°	TDZE	N/A
Chan 33		Apt Elev	1455

VOR-A

ELY MUNI (ELO)

MISSED APPROACH: Climb to 3000 then climbing left turn to 3400 direct ELO VOR/DME and hold.

AWOS-3	PRINCETON RADIO	UNICOM
132.025	122.1R	122.8 (CTAF) L



CATEGORY	A	B	C	D
CIRCLING	2120-1	665 (700-1)	2120-1¾ 665 (700-1¾)	2120-2 665 (700-2)

NC-1. 08 APR 2010 to 06 MAY 2010

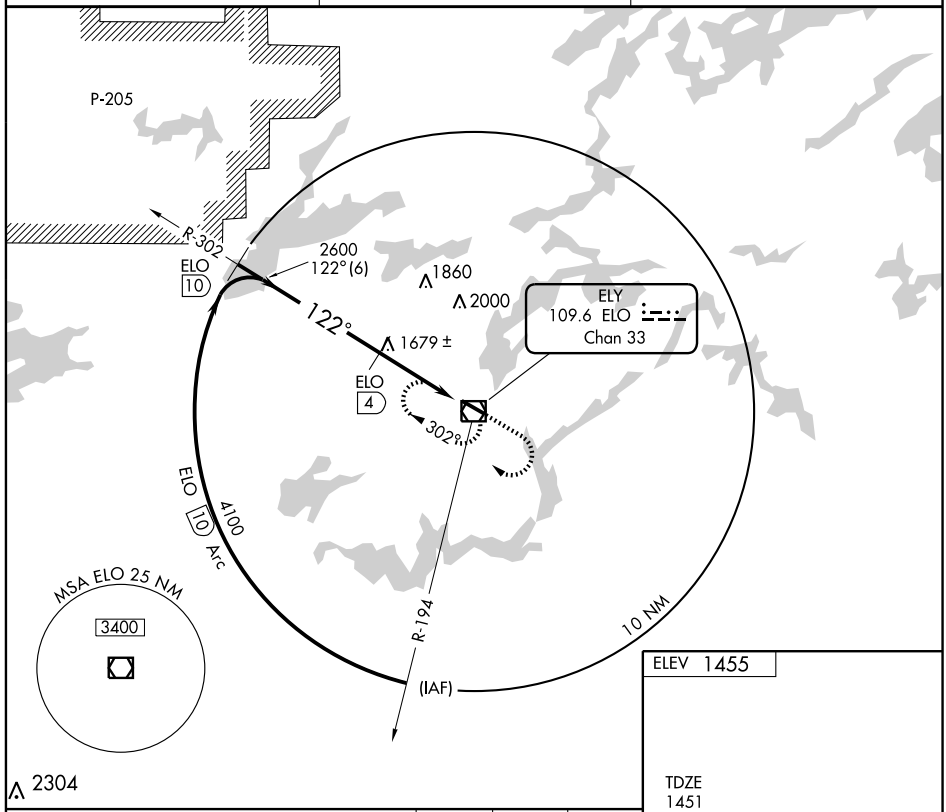
VOR/DME ELO 109.6 Chan 33	APP CRS 122°	Rwy ldg 5600 TDZE 1451 Apt Elev 1455

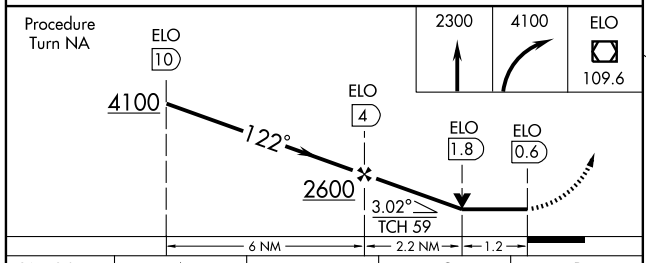
VOR/DME RWY 12

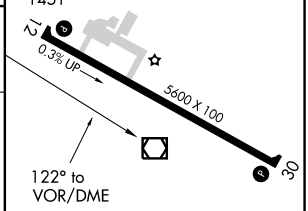
ELY MUNI (ELO)

MISSED APPROACH: Climb to 2300 then climbing right turn to 4100 direct ELO VOR/DME and hold.

AWOS-3	PRINCETON RADIO	UNICOM
132.025	122.1R	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-12	1900-1	449 (500-1)	1900-1¼ 449 (500-1¼)	1900-1½ 449 (500-1½)
CIRCLING	1920-1	465 (500-1)	1940-1½ 485 (500-1½)	2020-2 565 (600-2)

MIRL Rwy 12-30 L

REIL Rwys 12 and 30 L

NC-1. 08 APR 2010 to 06 MAY 2010

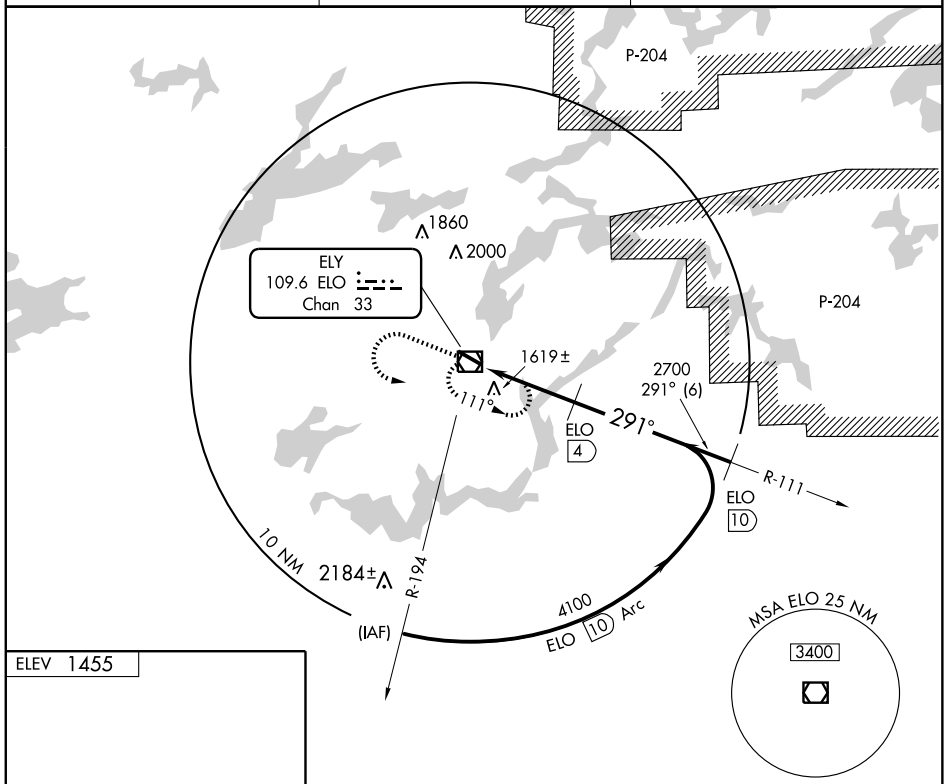
VOR/DME ELO 109.6 Chan 33	APP CRS 291°	Rwy ldg 5600 TDZE 1455 Apt Elev 1455

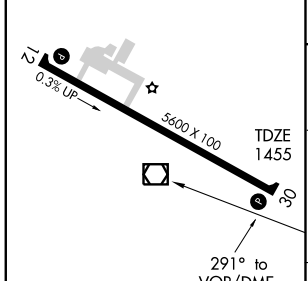
VOR/DME RWY 30

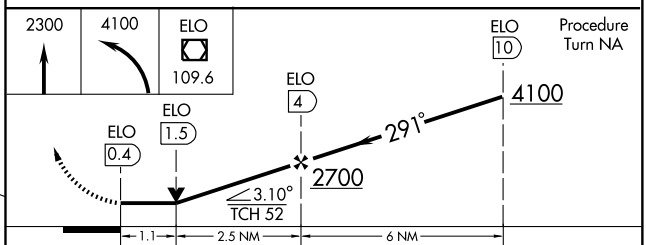
ELY MUNI (ELO)

MISSED APPROACH: Climb to 2300 then climbing left turn to 4100 direct ELO VOR/DME and hold.

AWOS-3	PRINCETON RADIO	UNICOM
132.025	122.1R	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-30	1880-1 425 (500-1)		1880-1¼ 425 (500-1¼)	
CIRCLING	1920-1 465 (500-1)		1940-1½ 485 (500-1½)	2020-2 565 (600-2)

MIRL Rwy 12-30 L

REIL Rwys 12 and 30 L

NC-1. 08 APR 2010 to 06 MAY 2010

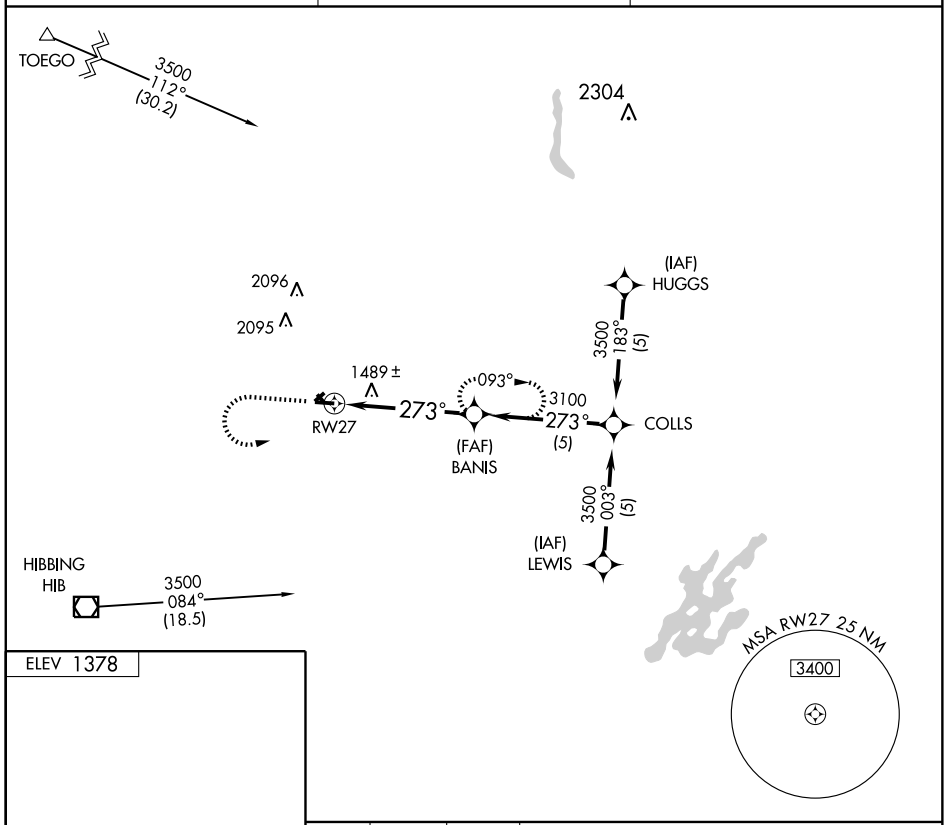
APP CRS	Rwy ldg	4215
273°	TDZE	1369
	Apt Elev	1378

GPS RWY 27
EVELETH-VIRGINIA MUNI (EVM)

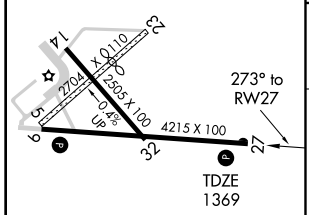
NA

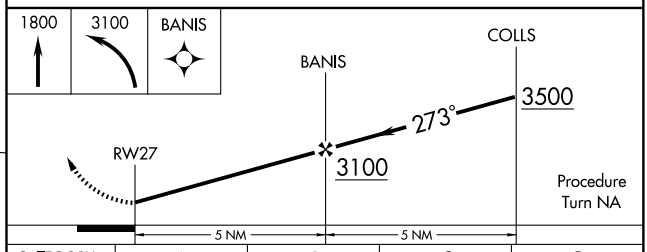
MISSED APPROACH: Climb to 1800 then left climbing turn to 3100 direct BANIS WP and hold.

AWOS-3	DULUTH APP CON ★	UNICOM
108.2	125.45 255.9	122.7 (CTAF)



ELEV 1378





CATEGORY	A	B	C	D
S-27	1740-1 371 (400-1)			1740-1¼ 371 (400-1¼)
CIRCLING	1920-1 542 (600-1)		1940-1½ 562 (600-1½)	2060-2¼ 682 (700-2¼)

REIL Rwy 27
MIRL Rwys 9-27 and 14-32

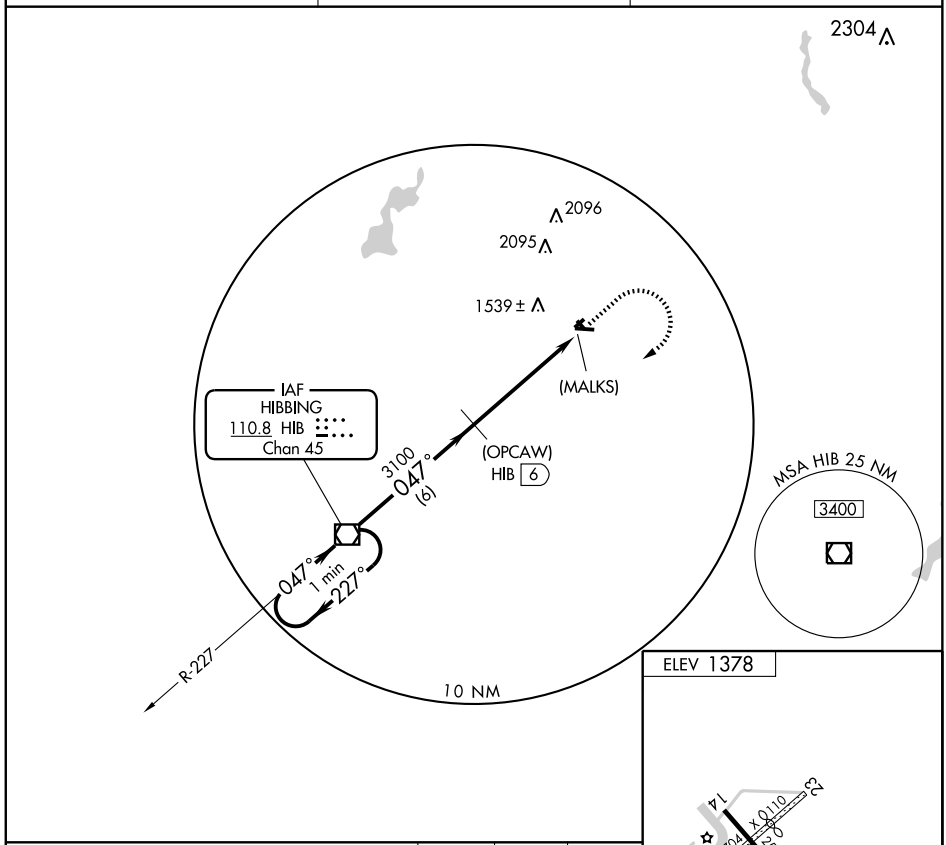
VOR/DME HIB	APP CRS	Rwy ldg	N/A
110.8	047°	TDZE	N/A
Chan 45		Apt Elev	1378

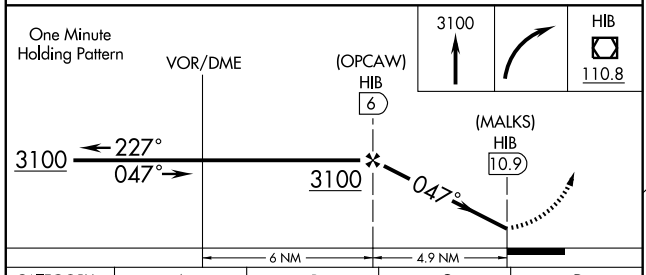
VOR/DME or GPS-A

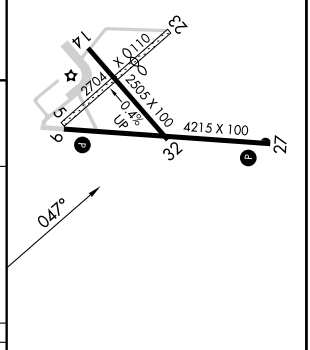
EVELETH-VIRGINIA MUNI (EVM)

MISSED APPROACH: Climb to 3100 then right turn direct HIB VOR/DME and hold.

AWOS-3	DULUTH APP CON ★	UNICOM
108.2	125.45 255.9	122.7 (CTAF) L







CATEGORY	A	B	C	D
CIRCLING	2120-1 742 (800-1)	2120-1¼ 742 (800-1¼)	2120-2¼ 742 (800-2¼)	2120-2½ 742 (800-2½)

REIL Rwy 27 L
MIRL Rwys 9-27 and 14-32 L

NC-1. 08 APR 2010 to 06 MAY 2010

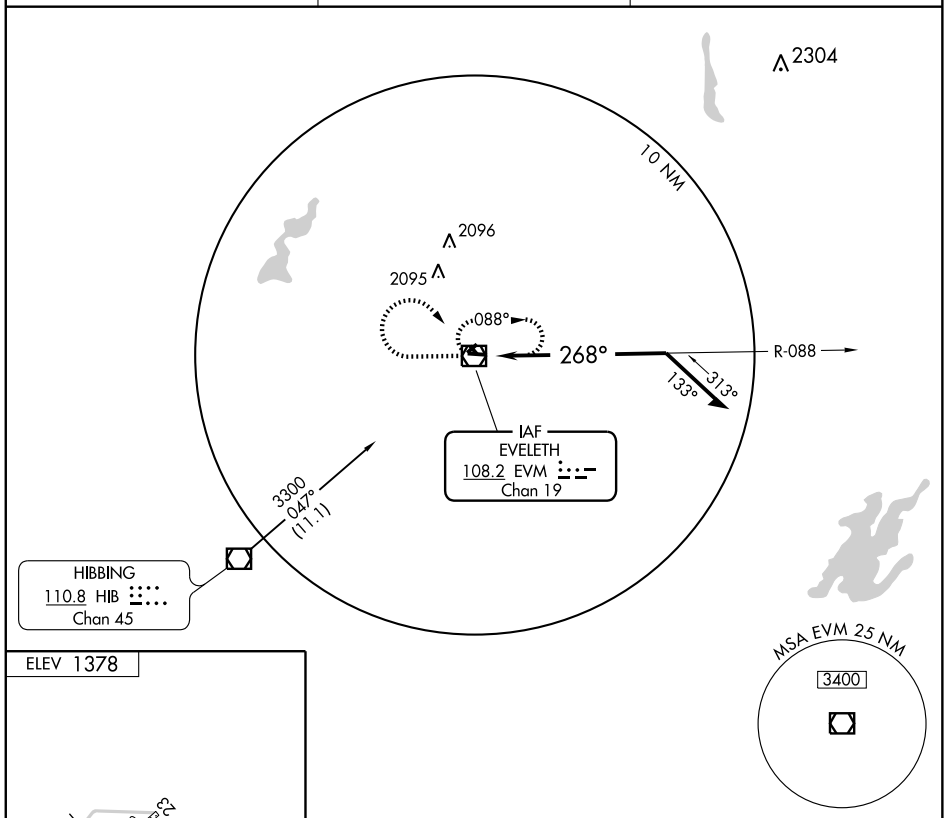
VOR/DME EVM	APP CRS	Rwy ldg	4215
108.2	268°	TDZE	1369
Chan 19		Apt Elev	1378

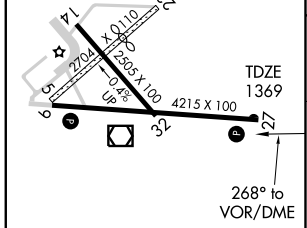
VOR RWY 27
EVELETH-VIRGINIA MUNI (EVM)

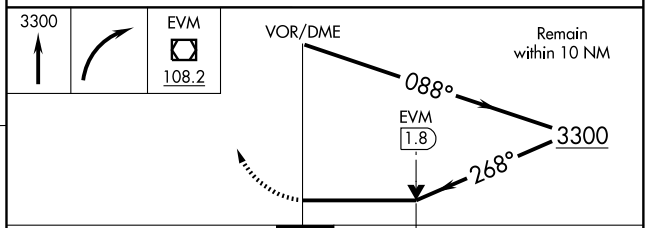
NA — If local altimeter setting not received, use Range Rgnl altimeter setting and increase all MDAs 40 feet. VDP NA when using Range Rgnl altimeter setting.

MISSED APPROACH: Climb to 3300 then right turn direct EVM VOR/DME and hold.

AWOS-3	DULUTH APP CON ★	UNICOM
108.2	125.45 255.9	122.7 (CTAF) L







CATEGORY	A	B	C	D
S-27	1820-1 451 (500-1)		1820-1¼ 451 (500-1¼)	1820-1½ 451 (500-1½)
CIRCLING	1900-1 522 (600-1)	1960-1 582 (600-1)	1980-1¾ 602 (700-1¾)	2040-2 662 (700-2)

REIL Rwy 27 L
MIRL Rwys 9-27 and 14-32 L

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-FQJ	APP CRS	Rwy ldg	5505
111.1	310°	TDZE	1162
		Apt Elev	1162

COPTER ILS RWY 31

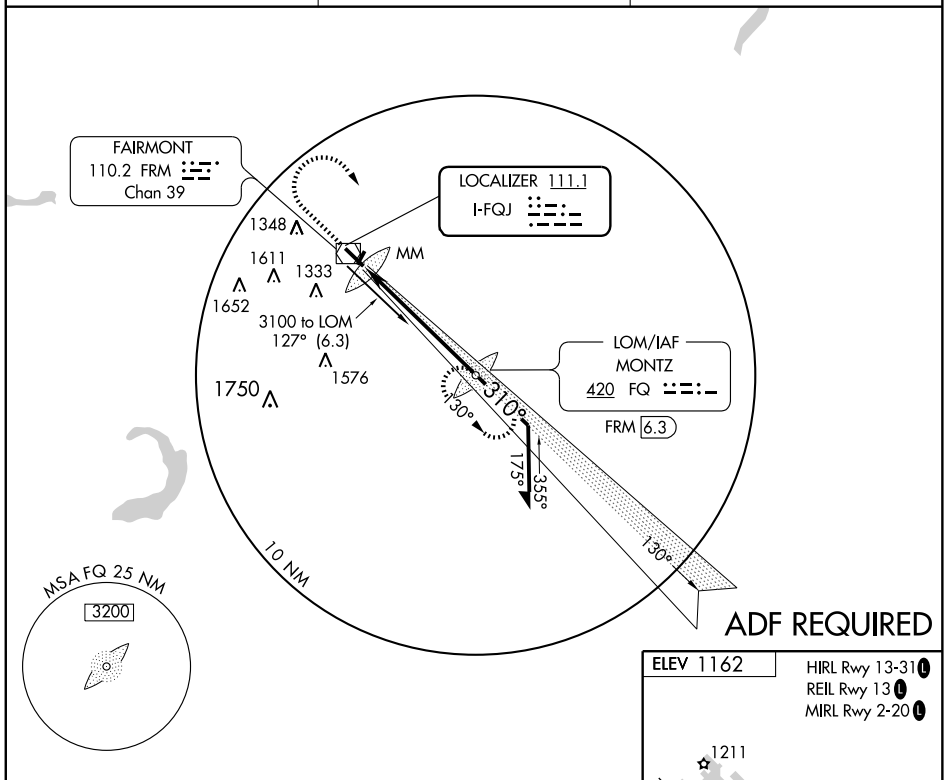
FAIRMONT MUNI (FRM)

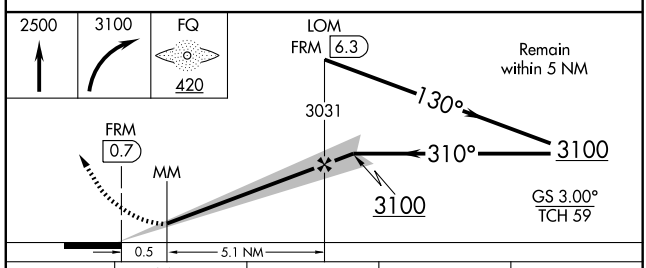
NA
For inoperative MALSR increase visibility to ½ mile.

MALSR

MISSED APPROACH: Climb to 2500 then climbing right turn to 3100 direct MONTZ LOM and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.2	127.75 257.7	122.8 (CTAF) L

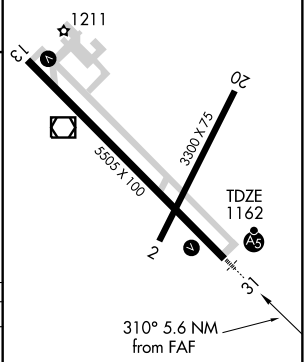




CATEGORY	COPTER	B	C	D
S-ILS 31	1362-¼ 200 (200-¼)	NA		
S-LOC 31	1540-¼ 378 (400-¼)	NA		
CIRCLING	NA			

ELEV 1162

HIRL Rwy 13-31 L
REIL Rwy 13 L
MIRL Rwy 2-20 L



FAF to MAP 5.6 NM					
Knots	45	60	75	90	105
Min:Sec	7:28	5:36	4:29	3:44	3:12

LOC I-FQJ	APP CRS	Rwy ldg	5505
111.1	310°	TDZE	1162
		Apt Elev	1162

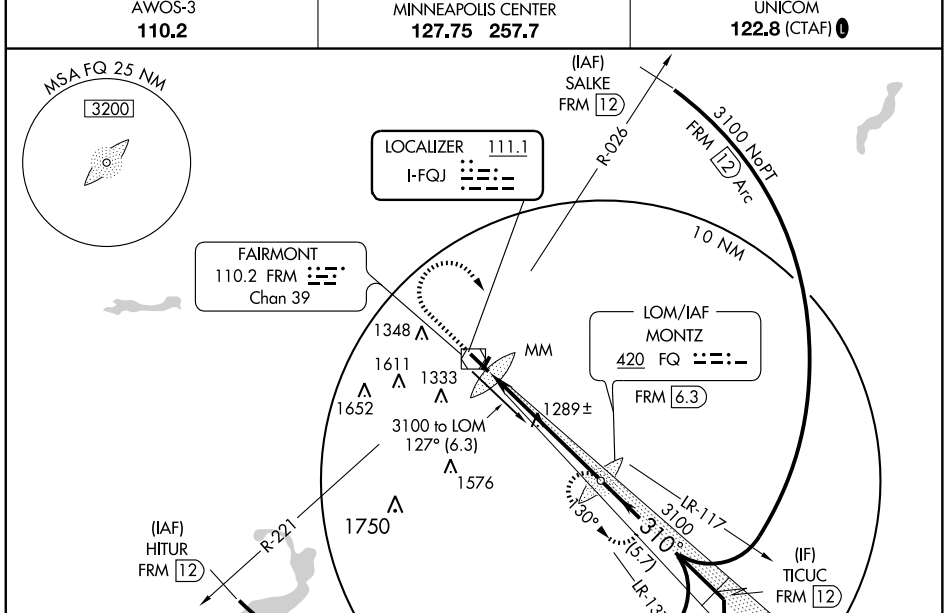
ILS or LOC RWY 31
FAIRMONT MUNI (FRM)

ADF required.
NA
Autopilot coupled approach NA below 1468 feet MSL.
S-ILS-31: Inoperative table does not apply.
S-LOC-31: For inoperative MALSR increase Cats A, B, and C visibility to 1, Cat D visibility to 1¼ .

MALSR A5

MISSED APPROACH: Climb to 2500 then climbing right turn to 3100 direct MONTZ LOM/ FRM 6.3 DME and hold.

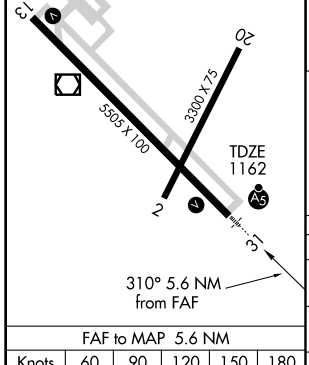
AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.2	127.75 257.7	122.8 (CTAF) L



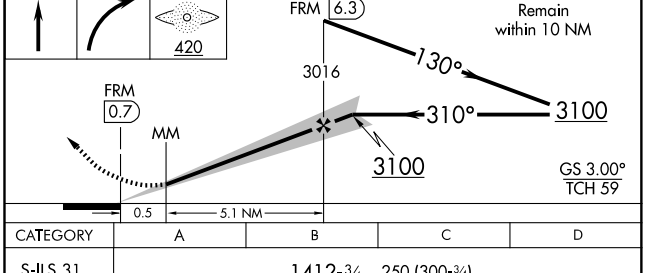
ADF REQUIRED

ELEV 1162

HIRL Rwy 13-31 L
REIL Rwy 13 L
MIRL Rwy 2-20 L



FAF to MAP 5.6 NM					
Knots	60	90	120	150	180
Min:Sec	5:36	3:44	2:48	2:14	1:52



CATEGORY	A	B	C	D
S-ILS 31	1412-¾ 250 (300-¾)			
S-LOC 31	1540-¾ 378 (400-¾)			
CIRCLING	1640-1 478 (500-1)		1640-1½ 478 (500-1½)	1720-2 558 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

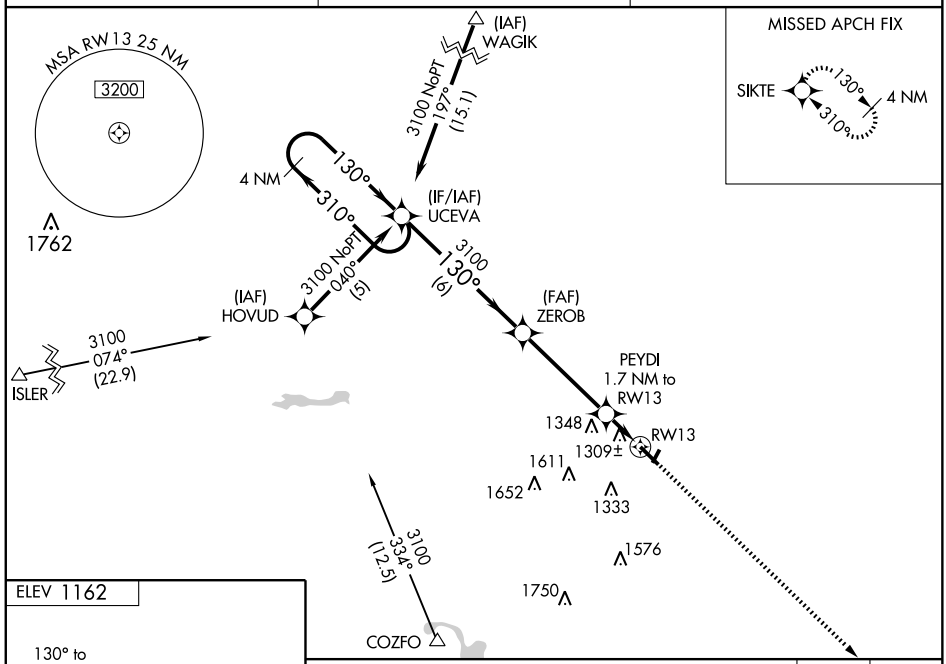
WAAS CH 45812 W13A	APP CRS 130°	Rwy ldg 5505 TDZE 1162 Apt Elev 1162

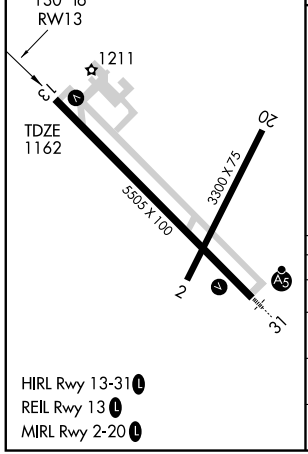
RNAV (GPS) RWY 13
FAIRMONT MUNI (FRM)

For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F).
DME/DME RNP- 0.3 NA. Visibility reduction by helicopters NA.
When local altimeter setting not received, use St. James altimeter setting and increase all DA 63 feet and all MDA 80 feet, increase LPV all Cats visibility and LNAV Cat C/D visibility ¼ mile.
Baro-VNAV and VDP NA when using St. James altimeter setting.

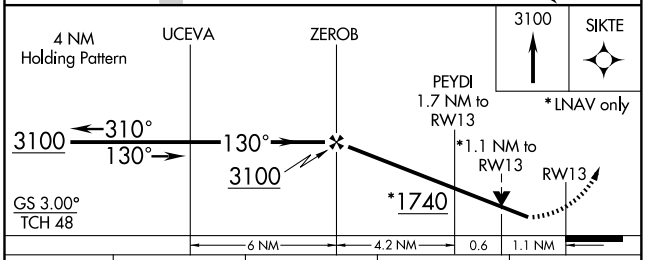
MISSED APPROACH: Climb to 3100 direct SIKTE and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.2	127.75 257.7	122.8 (CTAF) L





HIRL Rwy 13-31 L
REIL Rwy 13 L
MIRL Rwy 2-20 L



CATEGORY	A	B	C	D
LPV DA	1460-1 298 (300-1)			
LNAV/VNAV DA	1695-2 533 (600-2)			
LNAV MDA	1560-1 398 (400-1)			1560-1¼ 398 (400-1¼)
CIRCLING	1640-1 478 (500-1)		1640-1½ 478 (500-1½)	1720-2 558 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 90412 W31A	APP CRS 310°	Rwy ldg 5505 TDZE 1162 Apt Elev 1162

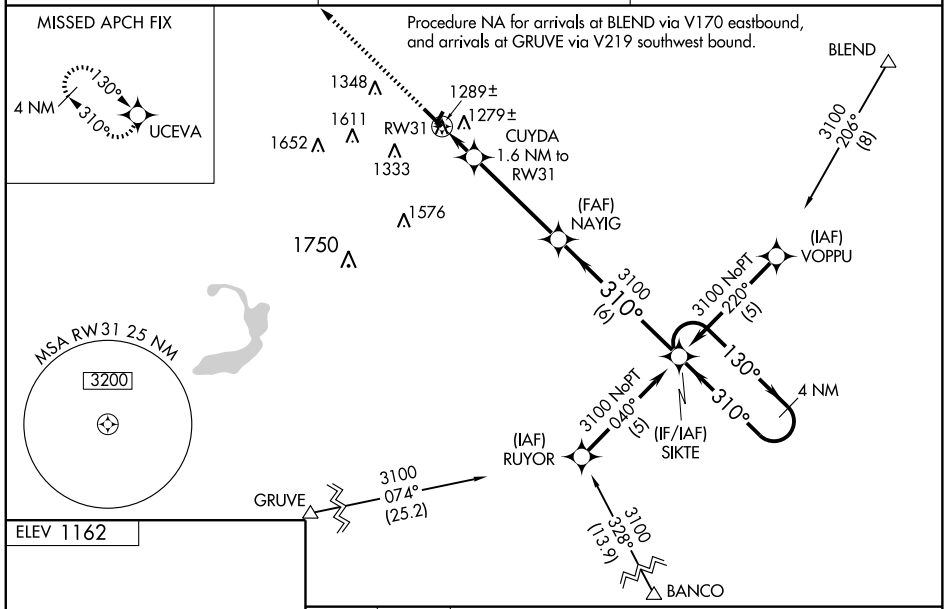
RNAV (GPS) RWY 31
FAIRMONT MUNI (FRM)

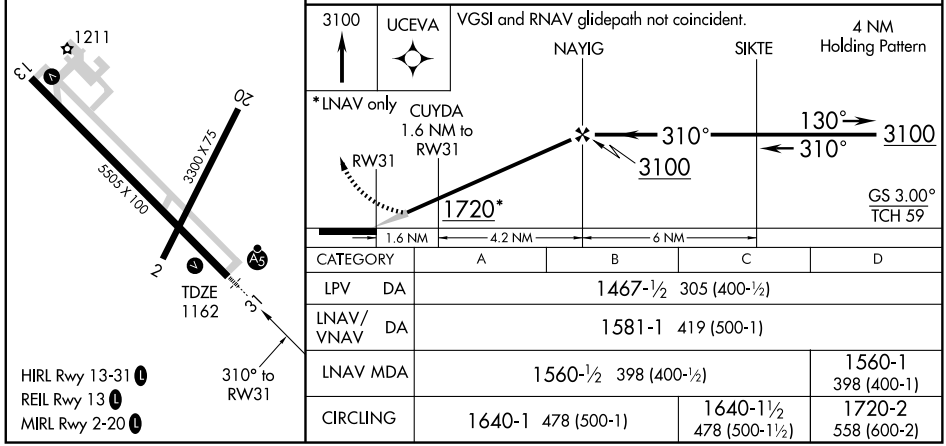
For inoperative MALSR, increase LPV all Cats visibility to 1 mile and LNAV Cat D visibility to 1¼ mile.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP-0.3 NA.
When local altimeter setting not received, use St. James altimeter setting and increase all DA 63 feet and all MDA 80 feet, increase LPV and LNAV/VNAV all Cats visibility and LNAV Cat C visibility ¼ mile.
Baro-VNAV NA when using St. James altimeter setting.
For inoperative MALSR when using St. James altimeter setting, increase LPV all Cats visibility ½ mile.

MALSR

MISSED APPROACH: Climb to 3100 direct UCEVA and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.2	127.75 257.7	122.8 (CTAF) L





CATEGORY	A	B	C	D
LPV DA	1467-½ 305 (400-½)			
LNAV/VNAV DA	1581-1 419 (500-1)			
LNAV MDA	1560-½ 398 (400-½)			1560-1 398 (400-1)
CIRCLING	1640-1 478 (500-1)		1640-1½ 478 (500-1½)	1720-2 558 (600-2)

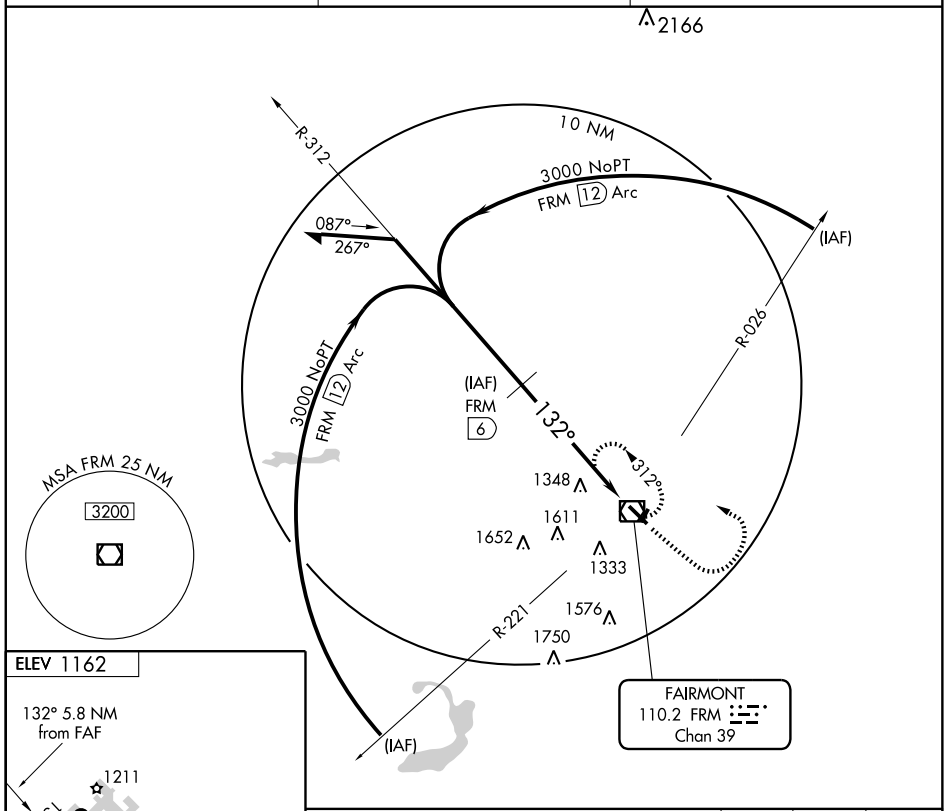
NC-1. 08 APR 2010 to 06 MAY 2010

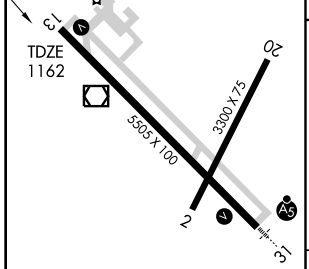
VOR/DME FRM 110.2 Chan 39	APP CRS 132°	Rwy ldg 5505 TDZE 1162 Apt Elev 1162

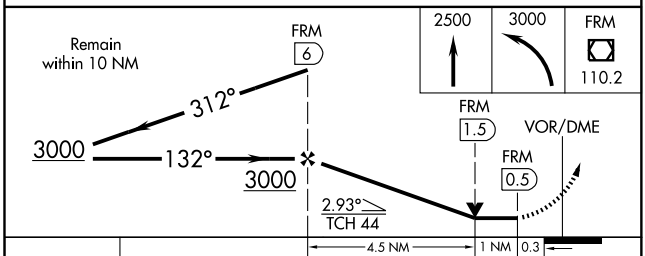
VOR/DME RWY 13
FAIRMONT MUNI (FRM)

MISSED APPROACH: Climb to 2500 then climbing left turn to 3000 direct FRM VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.2	127.75 257.7	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-13	1620-1 458 (500-1)		1620-1¼ 458 (500-1¼)	1620-1½ 458 (500-1½)
CIRCLING	1660-1 498 (500-1)		1660-1½ 498 (500-1½)	1720-2 558 (600-2)

HIRL Rwy 13-31 L
REIL Rwy 13 L
MIRL Rwy 2-20 L

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME FRM	APP CRS	Rwy ldg	5505
110.2	305°	TDZE	1162
Chan 39		Apt Elev	1162

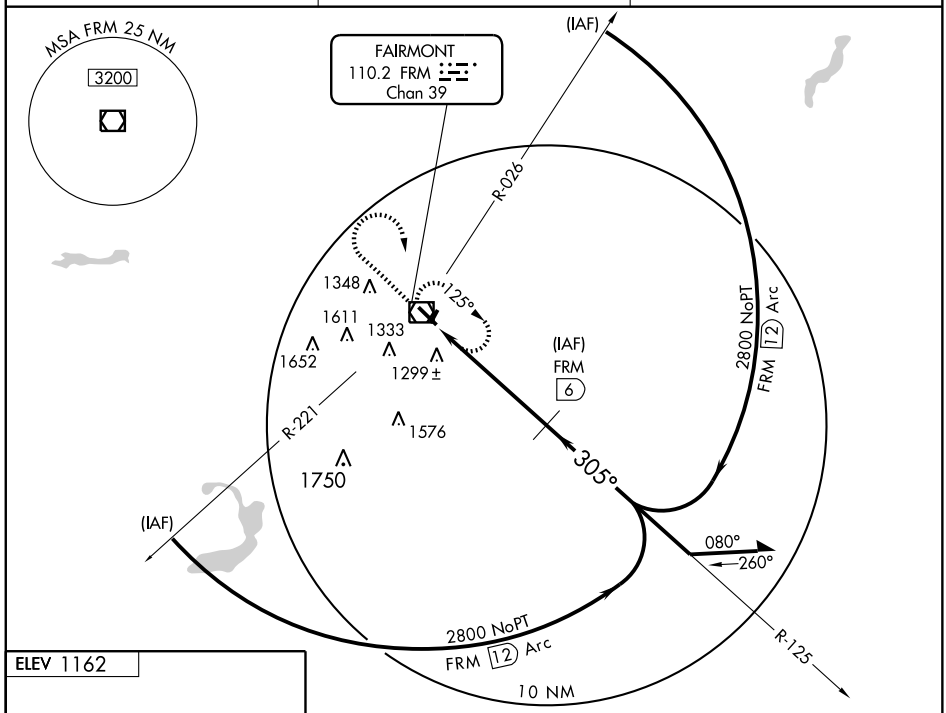
VOR/DME RWY 31
FAIRMONT MUNI (FRM)

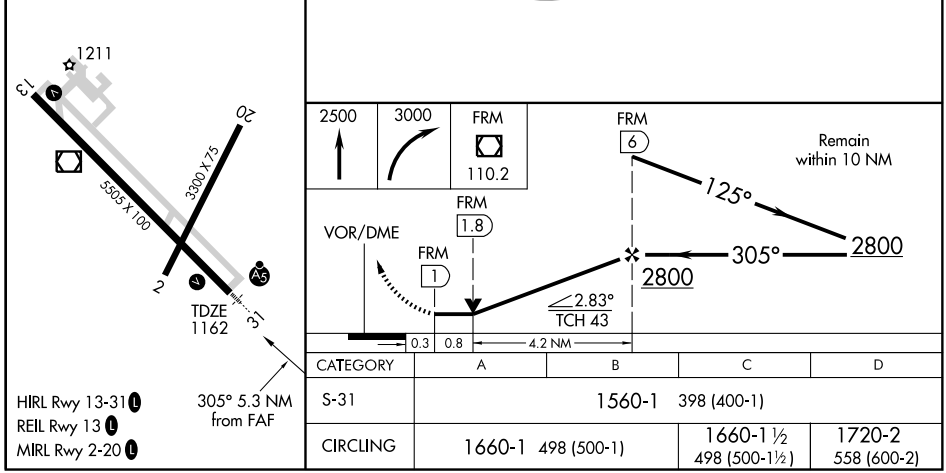
Category D S-31 visibilities increased ¼ mile for inoperative MALSR. Inoperative components table does not apply to Categories A, B and C.

MALSR A5

MISSED APPROACH: Climb to 2500 then climbing right turn to 3000 direct FRM VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.2	127.75 257.7	122.8 (CTAF) L





CATEGORY	A	B	C	D
S-31	1560-1 398 (400-1)			
CIRCLING	1660-1 498 (500-1)		1660-1½ 498 (500-1½)	1720-2 558 (600-2)

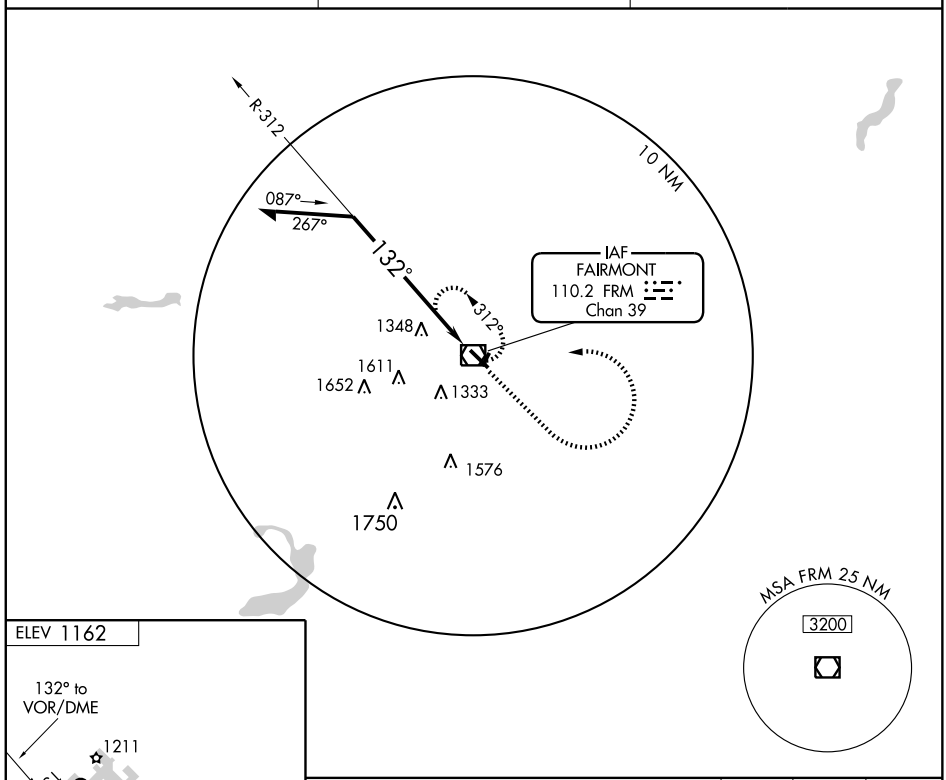
VOR/DME FRM	APP CRS	Rwy ldg	5505
110.2	132°	TDZE	1162
Chan 39		Apt Elev	1162

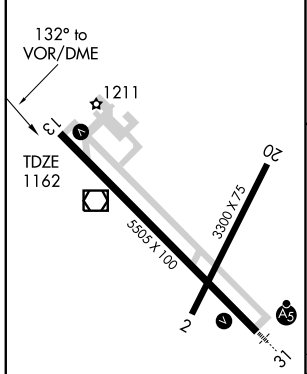
VOR RWY 13
FAIRMONT MUNI (FRM)

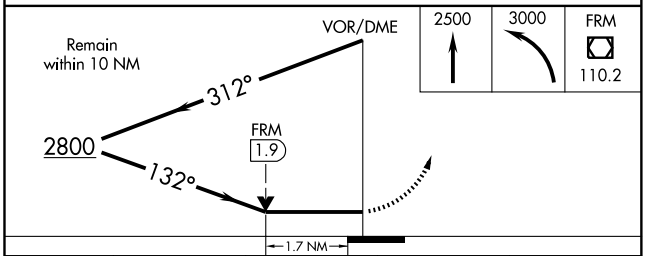
Visibility reduction by helicopters NA.
When local altimeter setting not received, use St. James altimeter setting and increase all MDA 80 feet, increase S-13 Cat C/D visibility and circling Cat C visibility ¼ mile.
VDP NA when using St. James altimeter setting.

MISSED APPROACH: Climb to 2500 then climbing left turn to 3000 direct FRM VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.2	127.75 257.7	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-13	1740-1 578 (600-1)		1740-1½ 578 (600-1½)	1740-1¾ 578 (600-1¾)
CIRCLING	1740-1 578 (600-1)		1740-1½ 578 (600-1½)	1740-2 578 (600-2)

HIRL Rwy 13-31 L
REIL Rwy 13 L
MIRL Rwy 2-20 L

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME FRM	APP CRS	Rwy ldg	5505
110.2	305°	TDZE	1162
Chan 39		Apt Elev	1162

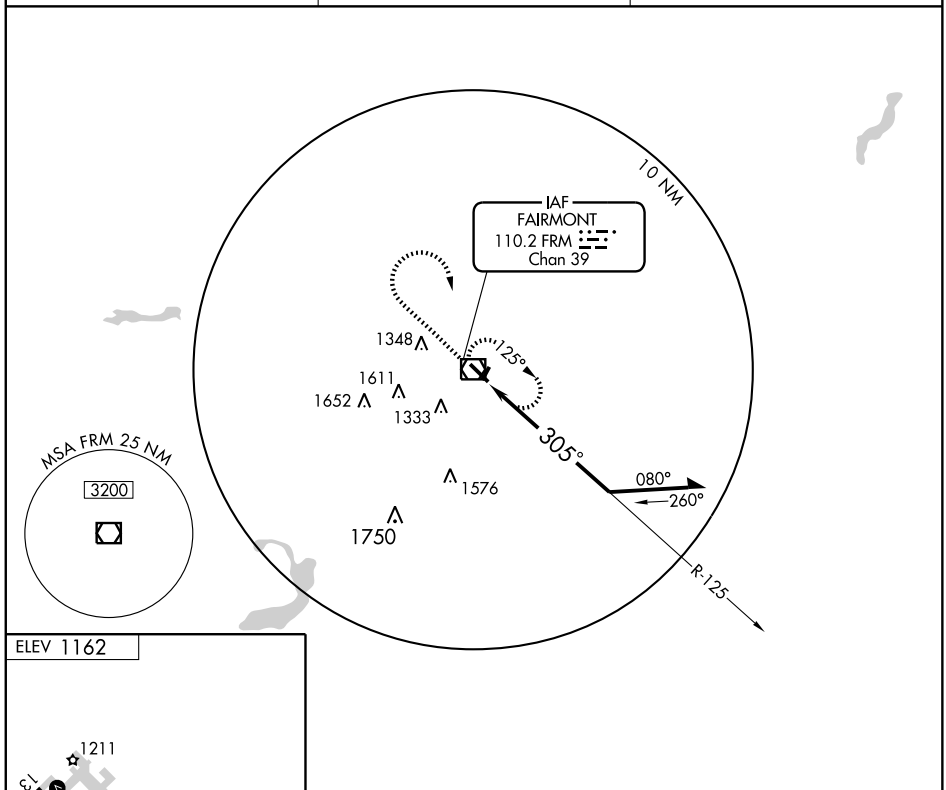
VOR RWY 31
FAIRMONT MUNI (FRM)

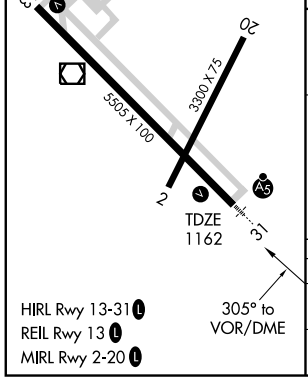
When local altimeter setting not received, use St. James altimeter setting and increase all MDA 80 feet, increase S-31 Cat C/D visibility and circling Cat C visibility ¼ mile. VDP NA when using St. James altimeter setting.

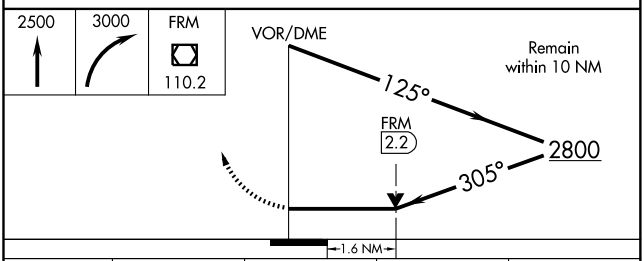
MALSR

MISSED APPROACH: Climb to 2500 then climbing right turn to 3000 direct FRM VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.2	127.75 257.7	122.8 (CTAF) L







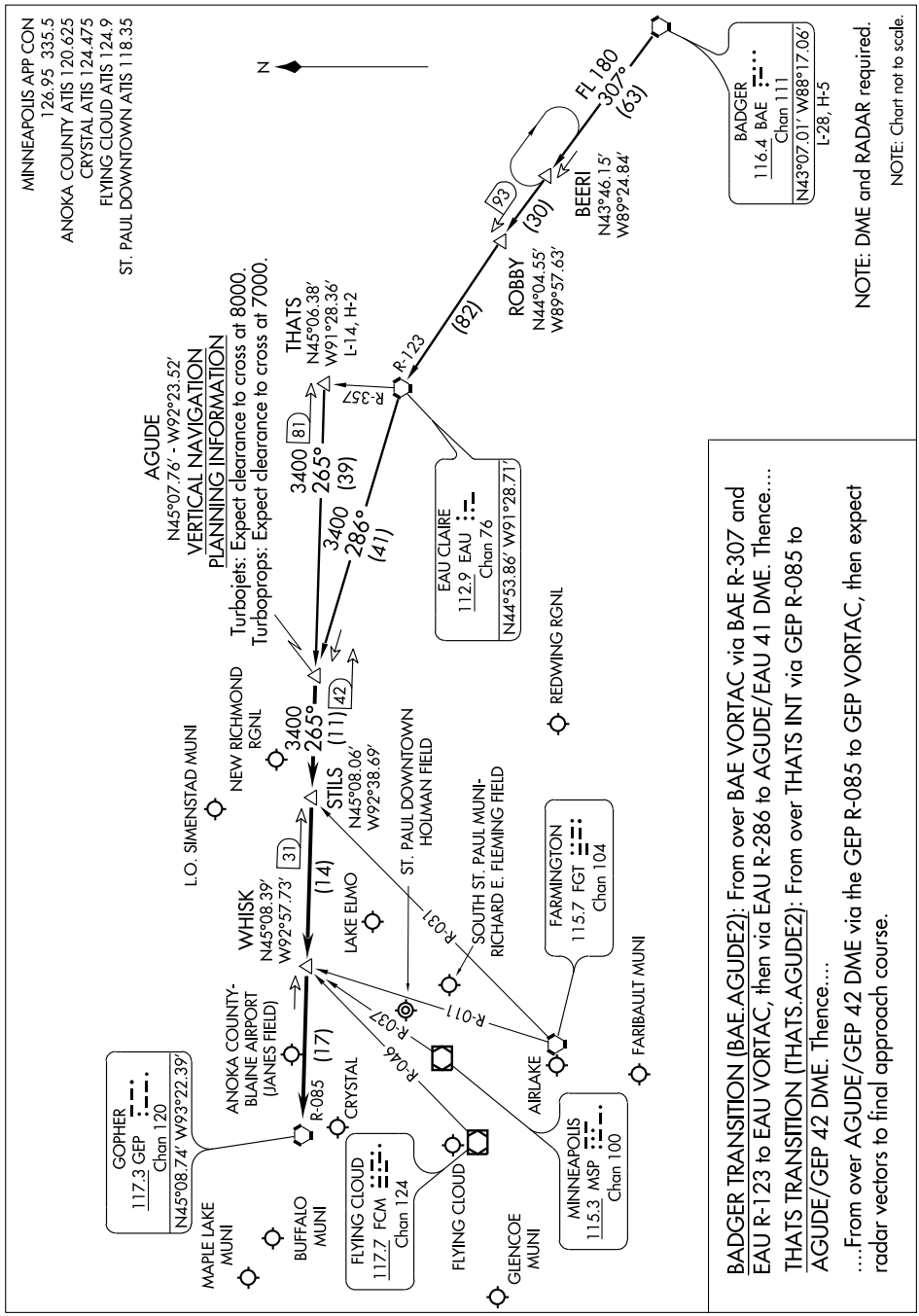
CATEGORY	A	B	C	D
S-31	1700-½ 538 (600-½)		1700-1 538 (600-1)	1700-1¼ 538 (600-1¼)
CIRCLING	1700-1 538 (600-1)		1700-1½ 538 (600-1½)	1720-2 558 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

AGUDE TWO ARRIVAL

ST-263 (FAA)

MINNEAPOLIS-ST. PAUL, MINNESOTA



BADGER TRANSITION (BAE.AGUDE2): From over BAE VORTAC via BAE R-307 and EAU R-123 to EAU VORTAC, then via EAU R-286 to AGUDE/EAU 41 DME. Thence....

THATS TRANSITION (THATS.AGUDE2): From over THATS INT via GEP R-085 to AGUDE/GEP 42 DME. Thence....

....From over AGUDE/GEP 42 DME via the GEP R-085 to GEP VORTAC, then expect radar vectors to final approach course.

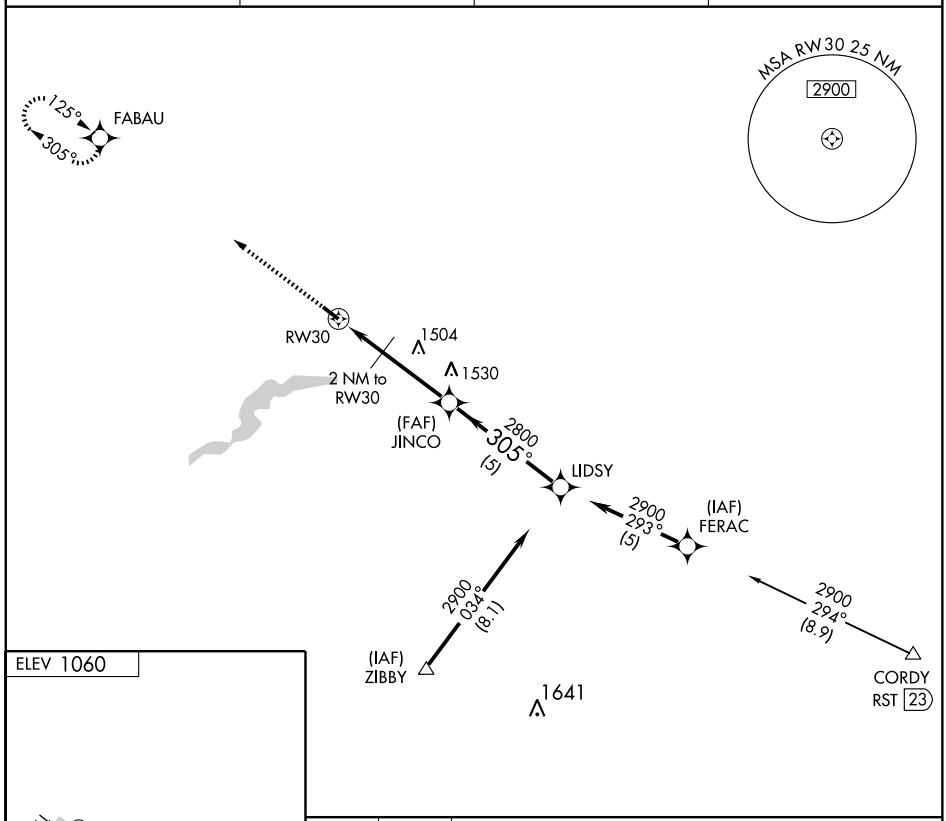
APP CRS		
305°	Rwy ldg	4017
	TDZE	1055
	Apt Elev	1060

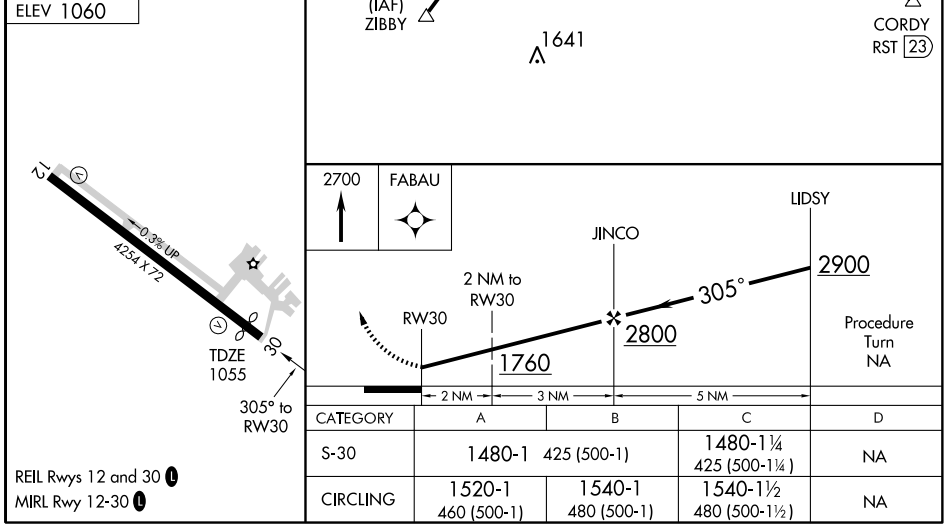
GPS RWY 30
FARIBAULT MUNI (FBL)

NA

MISSED APPROACH: Climb to 2700 direct FABAU WP and hold.

AWOS-3	MINNEAPOLIS APP CON	GCO	UNICOM
111.2	134.7 284.7	121.725	122.8 (CTAF) L





CATEGORY	A	B	C	D
S-30	1480-1 425 (500-1)		1480-1¼ 425 (500-1¼)	NA
CIRCLING	1520-1 460 (500-1)	1540-1 480 (500-1)	1540-1½ 480 (500-1½)	NA

REIL Rwys 12 and 30 L
MIRL Rwy 12-30 L

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME FOW	APP CRS	Rwy ldg	4254
111.2	125°	TDZE	1060
Chan 49		Apt Elev	1060

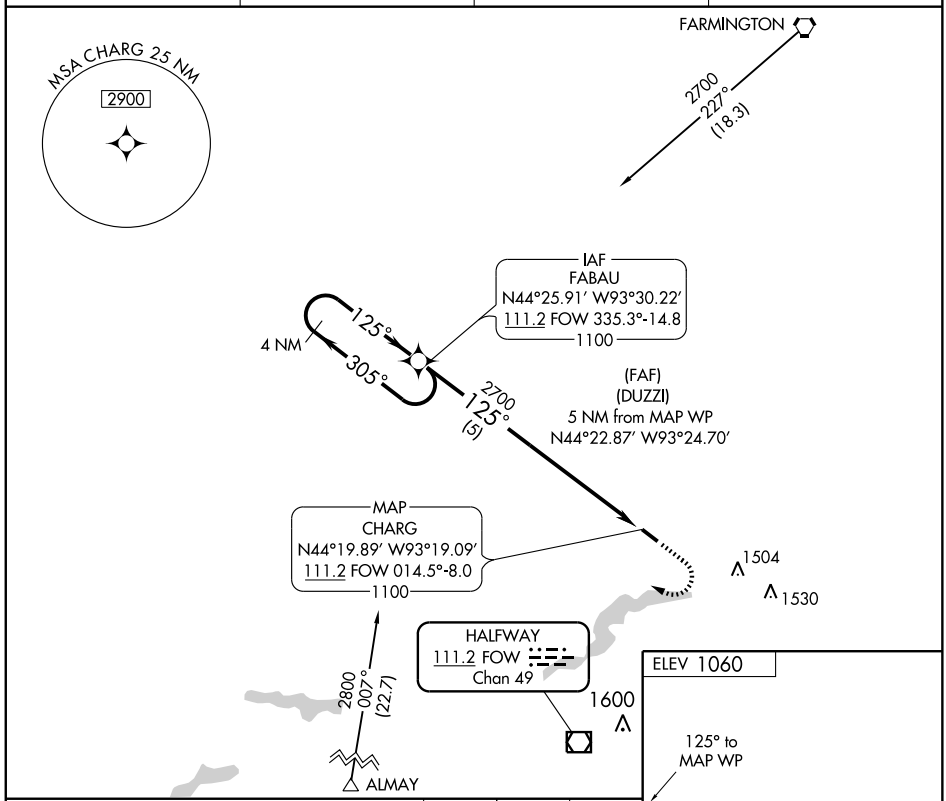
VOR/DME RNAV or GPS RWY 12

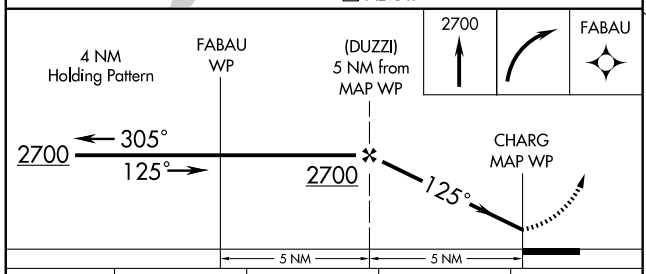
FARIBAULT MUNI (FBL)

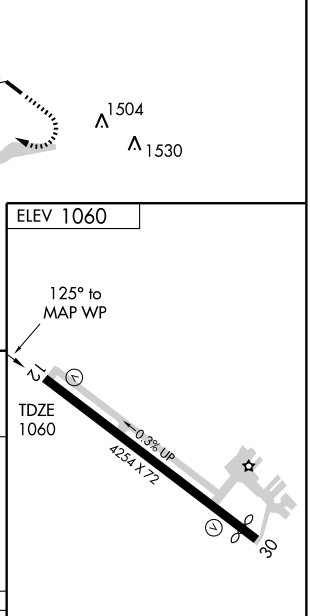
NA

MISSED APPROACH: Climb to 2700 then right turn direct FABAU WP and hold.

AWOS-3	MINNEAPOLIS APP CON	GCO	UNICOM
111.2	134.7 284.7	121.725	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-12	1520-1 460 (500-1)		1520-1¼ 460 (500-1¼)	NA
CIRCLING	1520-1 460 (500-1)	1540-1 480 (500-1)	1540-1½ 480 (500-1½)	NA

REIL Rwys 12 and 30 L

MIRL Rwy 12-30 L

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME FOW	APP CRS	Rwy ldg	N/A
111.2	018°	TDZE	N/A
Chan 49		Apt Elev	1060

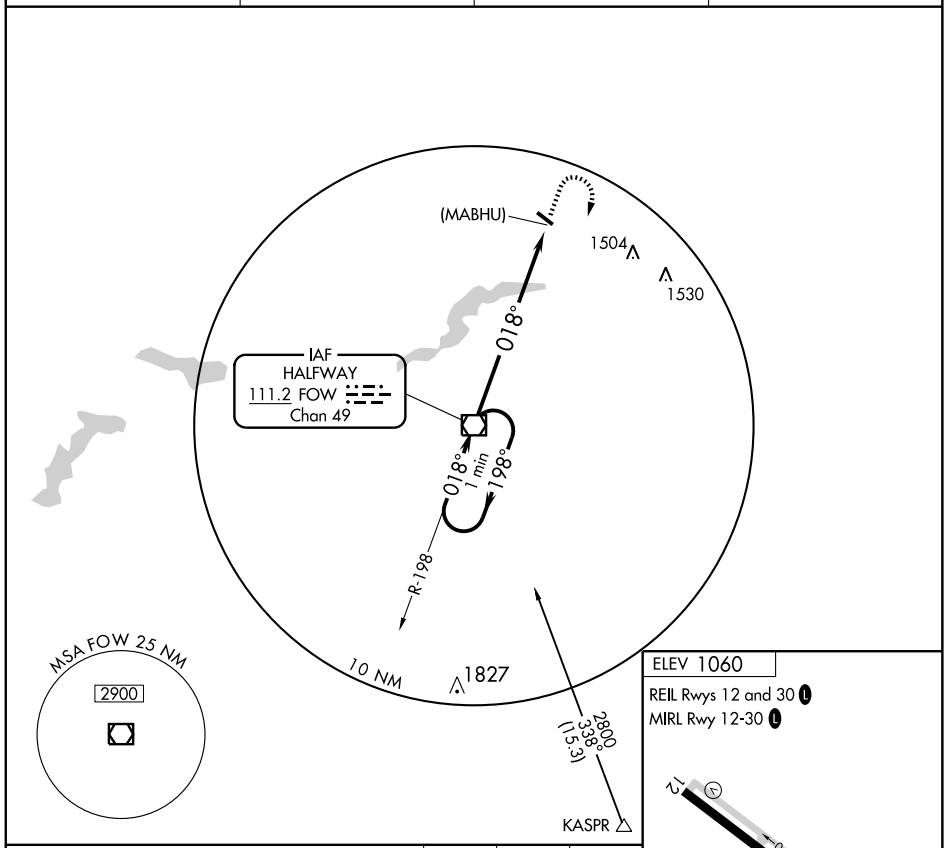
VOR or GPS-A

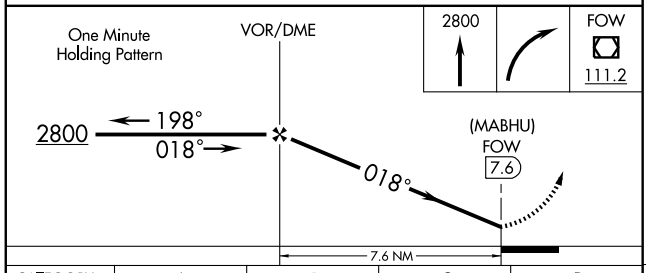
FARIBAULT MUNI (FBL)

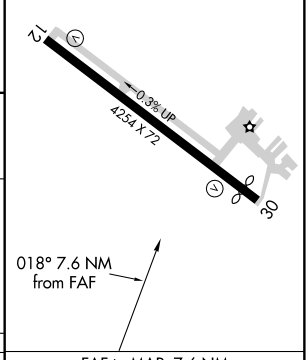
NA

MISSED APPROACH: Climb to 2800 then right turn direct FOW VOR/DME and hold.

AWOS-3	MINNEAPOLIS APP CON	GCO	UNICOM
111.2	134.7 284.7	121.725	122.8 (CTAF) L







CATEGORY	A	B	C	D
CIRCLING	1640-1 580 (600-1)		1640-1½ 580 (600-1½)	NA

FAF to MAP 7.6 NM

Knots	60	90	120	150	180
Min:Sec	7:36	5:04	3:48	3:02	2:32

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-FFM	APP CRS	Rwy ldg	5639
111.5	308°	TDZE	1182
		Apt Elev	1183

ILS or LOC RWY 31

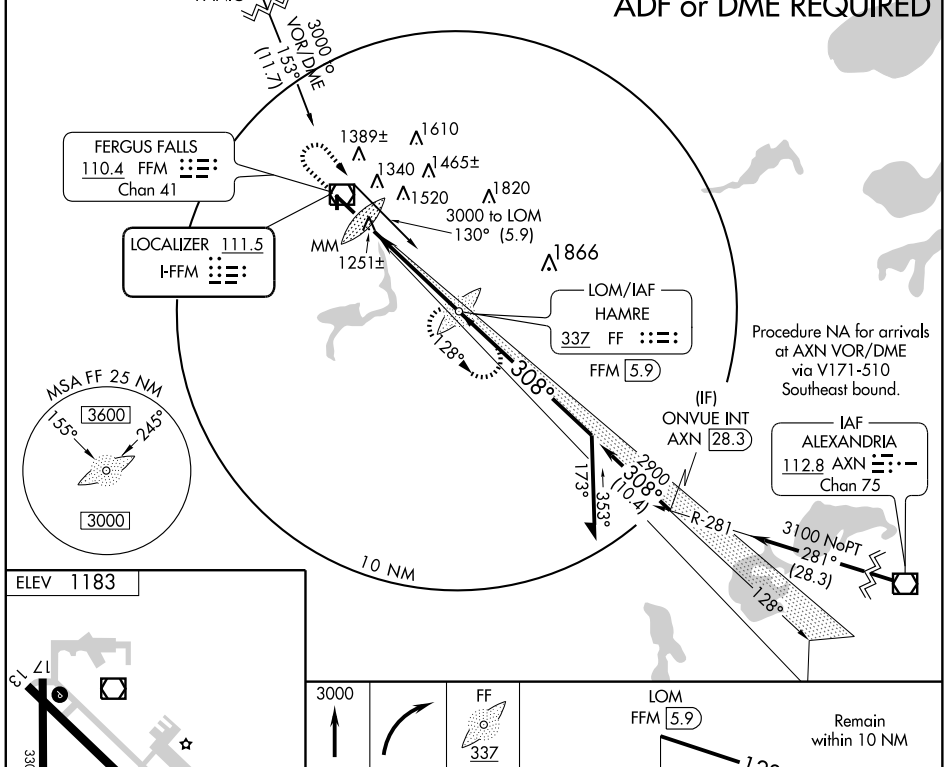
FERGUS FALLS MUNI-EINAR MICKELSON FIELD (FFM)

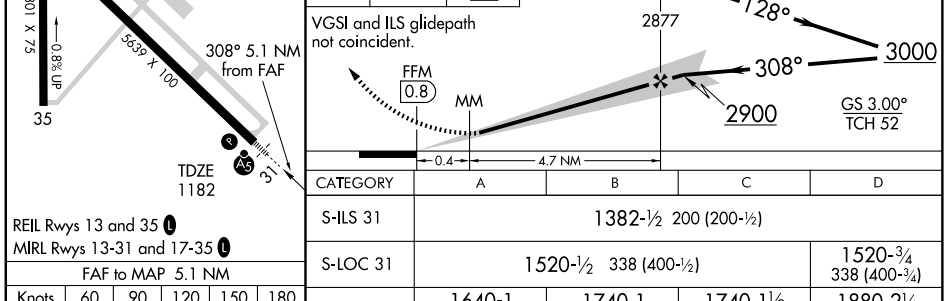
When local altimeter setting not received, use Wheaton altimeter setting and increase all DA 102 feet and all MDA 120 feet, increase S-LOC 31 and Circling Cat C and D visibility ½ mile. For inoperative MALSR, increase S-LOC 31 Cat D visibility ¼ mile. For inoperative MALSR when using Wheaton altimeter setting, increase S-ILS 31 all Cats visibility ½ mile. GS unusable for coupled approaches below 1400.

MALSR

MISSED APPROACH: Climb to 3000 then right turn direct HAMRE LOM/FFM 5.9 DME and hold.

AWOS-3	PRINCETON RADIO	UNICOM
110.4	122.35	122.8 (CTAF) L





REIL Rwys 13 and 35 L
MIRL Rwys 13-31 and 17-35 L

FAF to MAP 5.1 NM					
Knots	60	90	120	150	180
Min:Sec	5:06	3:24	2:33	2:02	1:42

CATEGORY	A	B	C	D
S-ILS 31	1382-½ 200 (200-½)			
S-LOC 31	1520-½ 338 (400-½)			1520-¾ 338 (400-¾)
CIRCLING	1640-1 457 (500-1)	1740-1 557 (600-1)	1740-1½ 557 (600-1½)	1880-2¼ 697 (700-2¼)

NC-1. 08 APR 2010 to 06 MAY 2010

LOM FF	APP CRS	Rwy ldg	5639
337	309°	TDZE	1182
		Apt Elev	1183

NDB RWY 31

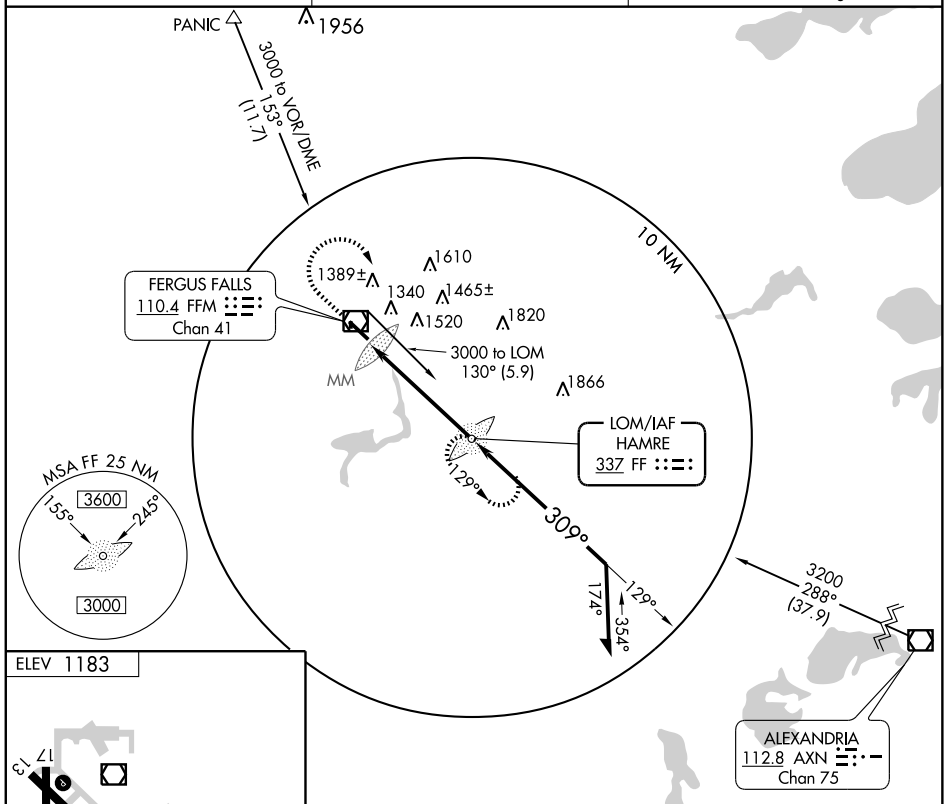
FERGUS FALLS MUNI-EINAR MICKELSON FIELD (FFM)

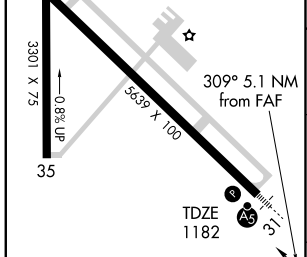
When local altimeter setting not received, use Wheaton altimeter setting and increase all MDA 120 feet, S-31 and Circling Cats C and D visibility ½ mile, Circling Cat B ¼ mile. For inoperative MALSR when using Wheaton altimeter setting, increase S-31 Cat B visibility ½ mile.

MALSR

MISSED APPROACH: Climb to 3000 then right turn direct FF LOM and hold.

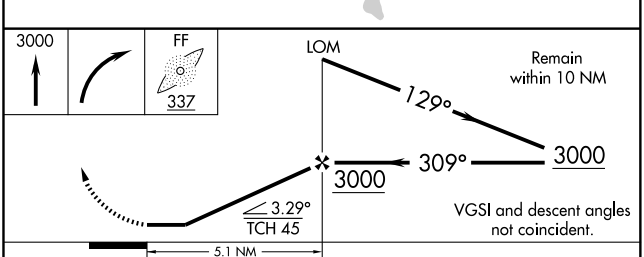
AWOS-3	PRINCETON RADIO	UNICOM
110.4	122.35	122.8 (CTAF) L





REIL Rwys 13 and 35 L
MIRL Rwys 13-31 and 17-35 L

FAF to MAP 5.1 NM					
Knots	60	90	120	150	180
Min:Sec	5:06	3:24	2:33	2:02	1:42



CATEGORY	A	B	C	D
S-31	1880-¾ 698 (700-¾)		1880-1½ 698 (700-1½)	1880-2 698 (700-2)
CIRCLING	1880-1 697 (700-1)		1880-2 697 (700-2)	1880-2¼ 697 (700-2¼)

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 42614 W31A	APP CRS 308°	Rwy ldg 5639 TDZE 1182 Apt Elev 1183

RNAV (GPS) RWY 31

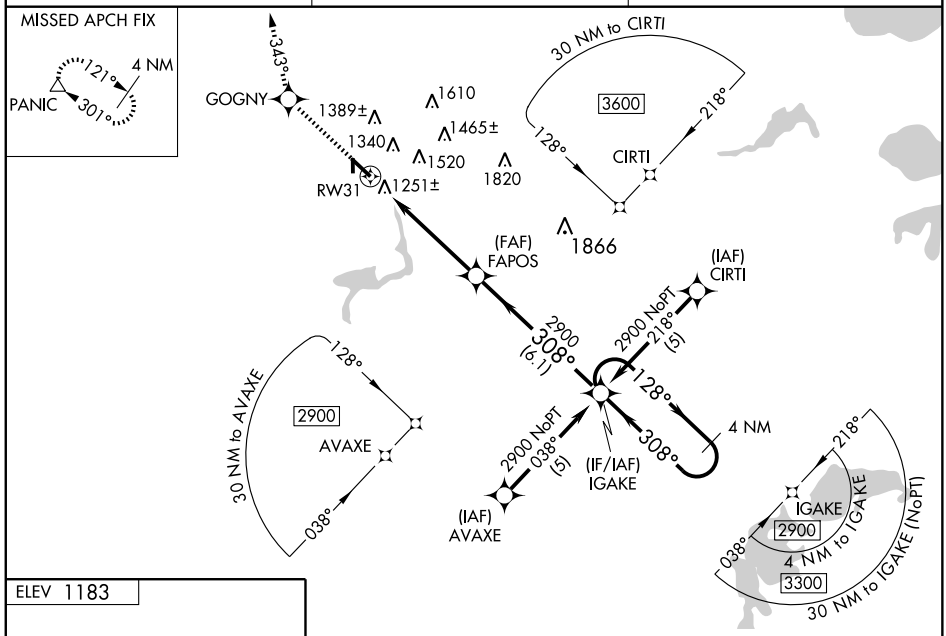
FERGUS FALLS MUNI-EINAR MICKELSON FIELD (FFM)

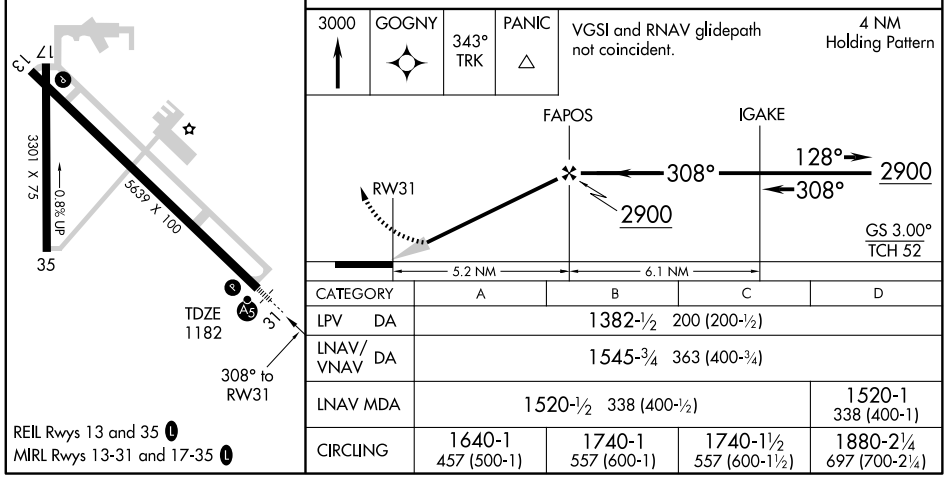
Inoperative table does not apply to LNAV Cat D. Baro-VNAV NA when using Wheaton altimeter setting. DME/DME RNP-0.3 NA. When local altimeter settting not received, use Wheaton altimeter setting and increase all DA 102 feet and all MDA 120 feet, LNAV/VNAV all Cats and Circling Cats C and D visibility ½ mile and LNAV Cat C ¼ mile. For inoperative MALSR when using Wheaton altimeter setting, increase LPV all Cats visibility ½ mile.

MALSR

MISSED APPROACH: Climb to 3000 direct GOGNY and via track 343° to PANIC and hold.

AWOS-3	PRINCETON RADIO	UNICOM
110.4	122.35	122.8 (CTAF) L





CATEGORY	A	B	C	D
LPV DA	1382-½ 200 (200-½)			
LNAV/VNAV DA	1545-¾ 363 (400-¾)			
LNAV MDA	1520-½ 338 (400-½)			1520-1 338 (400-1)
CIRCLING	1640-1 457 (500-1)	1740-1 557 (600-1)	1740-1½ 557 (600-1½)	1880-2¼ 697 (700-2¼)

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	3301
354°	TDZE	1182
	Apt Elev	1183

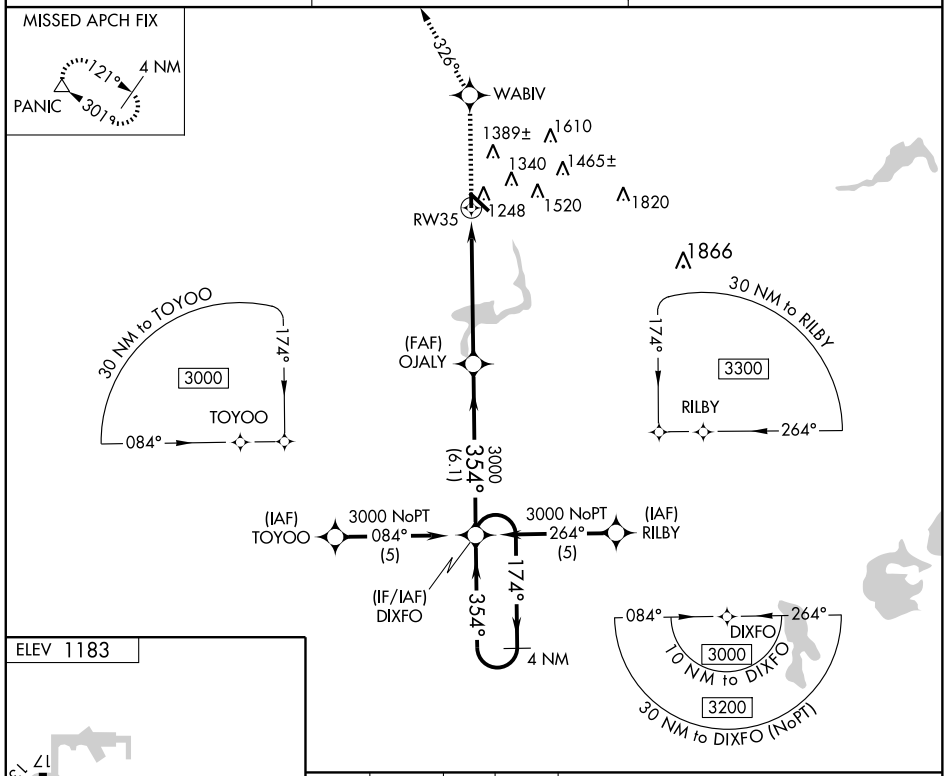
RNAV (GPS) RWY 35

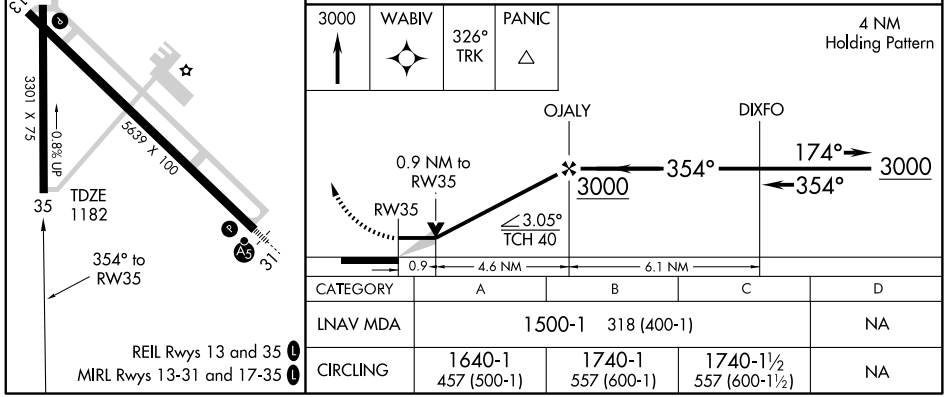
FERGUS FALLS MUNI-EINAR MICKELSON FIELD (FFM)

DME/DME RNP-0.3 NA. When local altimeter setting not received, use Wheaton altimeter setting and increase all MDA 120 feet and LNAV Cat C visibility ¼ mile, Circling Cat C ½ mile. VDP NA when using Wheaton altimeter setting.

MISSED APPROACH: Climb to 3000 direct WABIV and via track 326° to PANIC and hold.

AWOS-3	PRINCETON RADIO	UNICOM
110.4	122.35	122.8 (CTAF) L





REIL Rwys 13 and 35 L
MIRL Rwys 13-31 and 17-35 L

CATEGORY	A	B	C	D
LNAV MDA	1500-1 318 (400-1)			NA
CIRCLING	1640-1 457 (500-1)	1740-1 557 (600-1)	1740-1½ 557 (600-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME FFM	APP CRS	Rwy ldg	5639
110.4	115°	TDZE	1182
Chan 41		Apt Elev	1183

VOR RWY 13

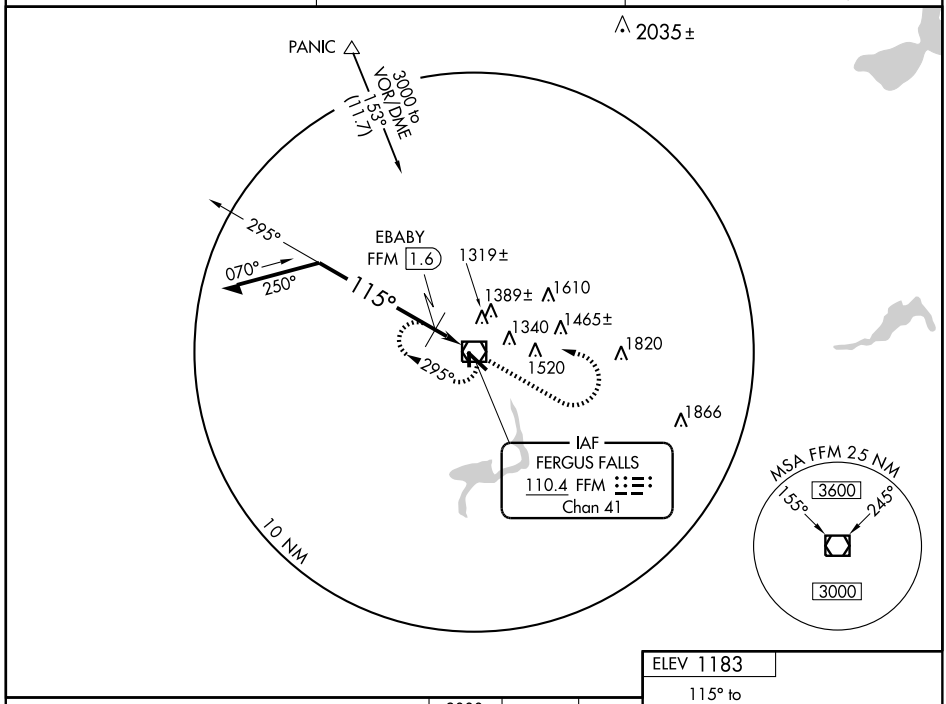
FERGUS FALLS MUNI-EINAR MICKELSON FIELD (FFM)

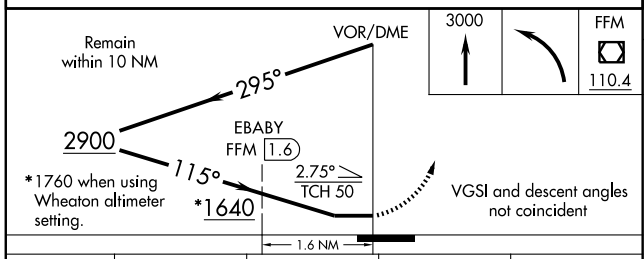
T NA

Cat D straight-in minima NA when using Wheaton altimeter setting. When local altimeter setting not received, use Wheaton altimeter setting and increase all MDA 120 feet, and S-13 Cat C and D visibility ¼ mile, Circling Cat C and D visibility ½ mile, increase EBABY FIX minimums S-13 and Circling Cat C and D visibility ½ mile.

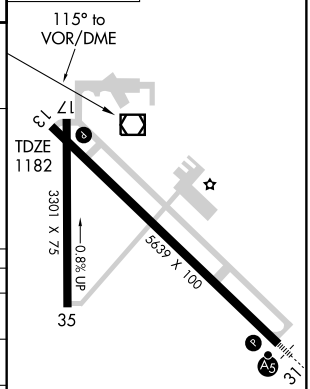
MISSED APPROACH: Climb to 3000 then left turn direct FFM VOR/DME and hold.

AWOS-3	PRINCETON RADIO	UNICOM
110.4	122.35	122.8 (CTAF) L





CATEGORY	A	B	C	D
S-13	1640-1 458 (500-1)		1640-1¼ 458 (500-1¼)	1640-1½ 458 (500-1½)
CIRCLING	1640-1 457 (500-1)	1740-1 557 (600-1)	1740-1½ 557 (600-1½)	1880-2¼ 697 (700-2¼)
EBABY FIX MINIMUMS				
S-13	1580-1 398 (400-1)			1580-1¼ 398 (400-1¼)
CIRCLING	1640-1 457 (500-1)	1740-1 557 (600-1)	1740-1½ 557 (600-1½)	1880-2¼ 697 (700-2¼)



REIL Rwys 13 and 35 L
MIRL Rwys 13-31 and 17-35 L

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME FFM	APP CRS	Rwy ldg	3301
110.4	004°	TDZE	1182
Chan 41		Apt Elev	1183

VOR RWY 35

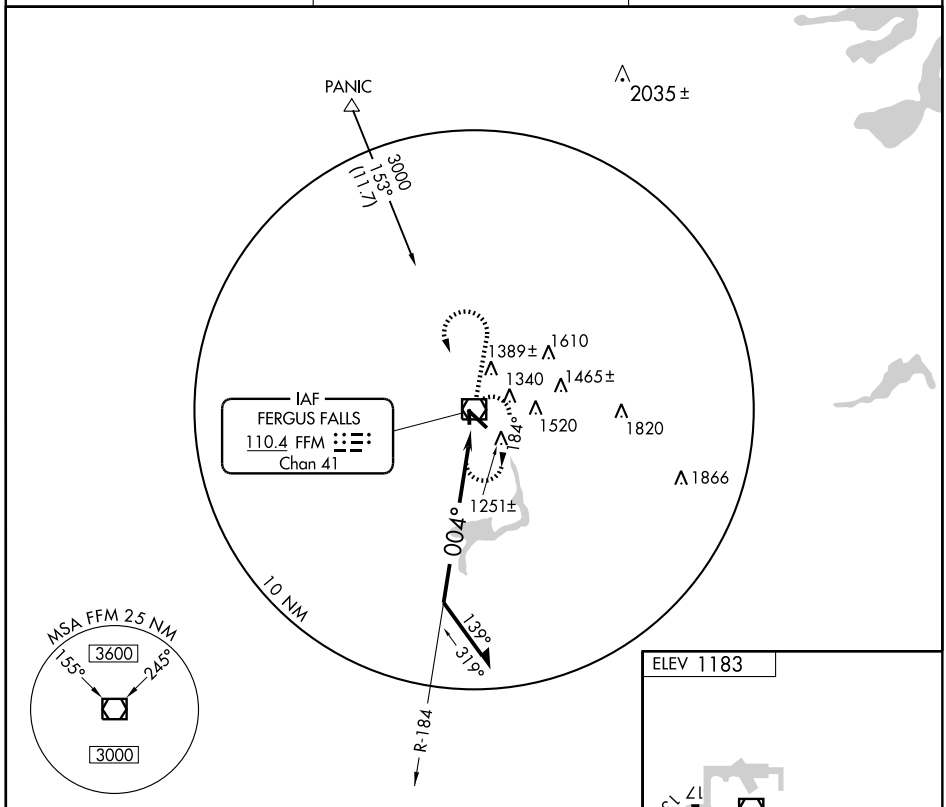
FERGUS FALLS MUNI-EINAR MICKELSON FIELD (FFM)

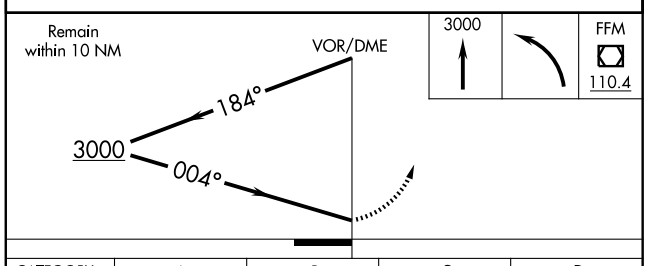
When local altimeter setting not received, use Wheaton altimeter setting and increase all MDA 120 feet, S-35 Cat C visibility ¼ mile and Circling Cat C visibility ½ mile

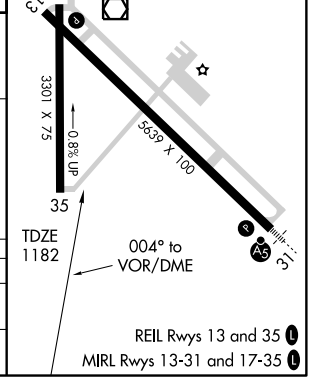
NA

MISSED APPROACH: Climb to 3000 then left turn direct FFM VOR/DME and hold.

AWOS-3	PRINCETON RADIO	UNICOM
110.4	122.35	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-35	1600-1 418 (500-1)		1600-1¼ 418 (500-1¼)	NA
CIRCLING	1640-1 457 (500-1)	1740-1 557 (600-1)	1740-1½ 557 (600-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

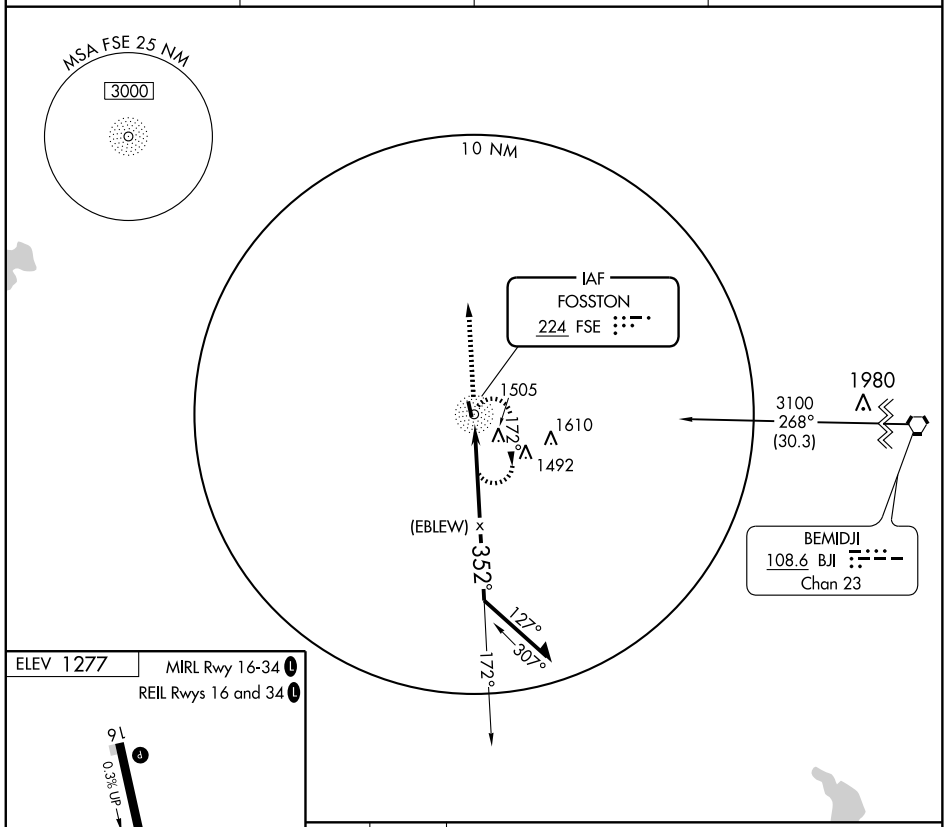
NDB FSE	APP CRS	Rwy ldg	3501
224	352°	TDZE	1277
		Apt Elev	1277

NDB or GPS RWY 34
FOSSTON MUNI (FSE)

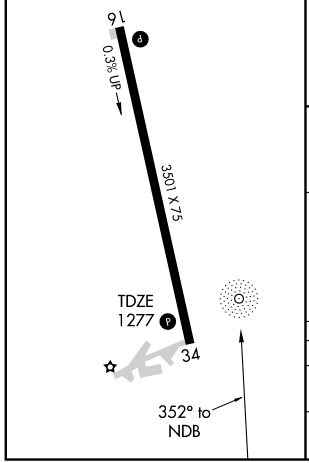
T
A NA

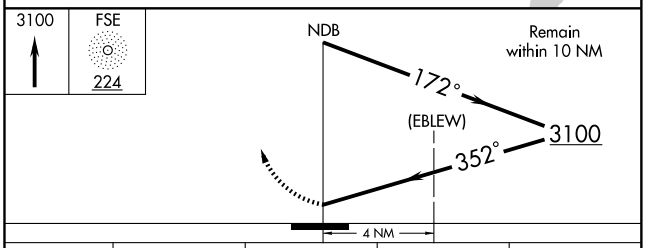
MISSED APPROACH: Climb to 3100 then direct FSE NDB and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	CTAF
224	134.75 251.1	121.725	122.9 L



ELEV 1277
MIRL Rwy 16-34 L
REIL Rwys 16 and 34 L





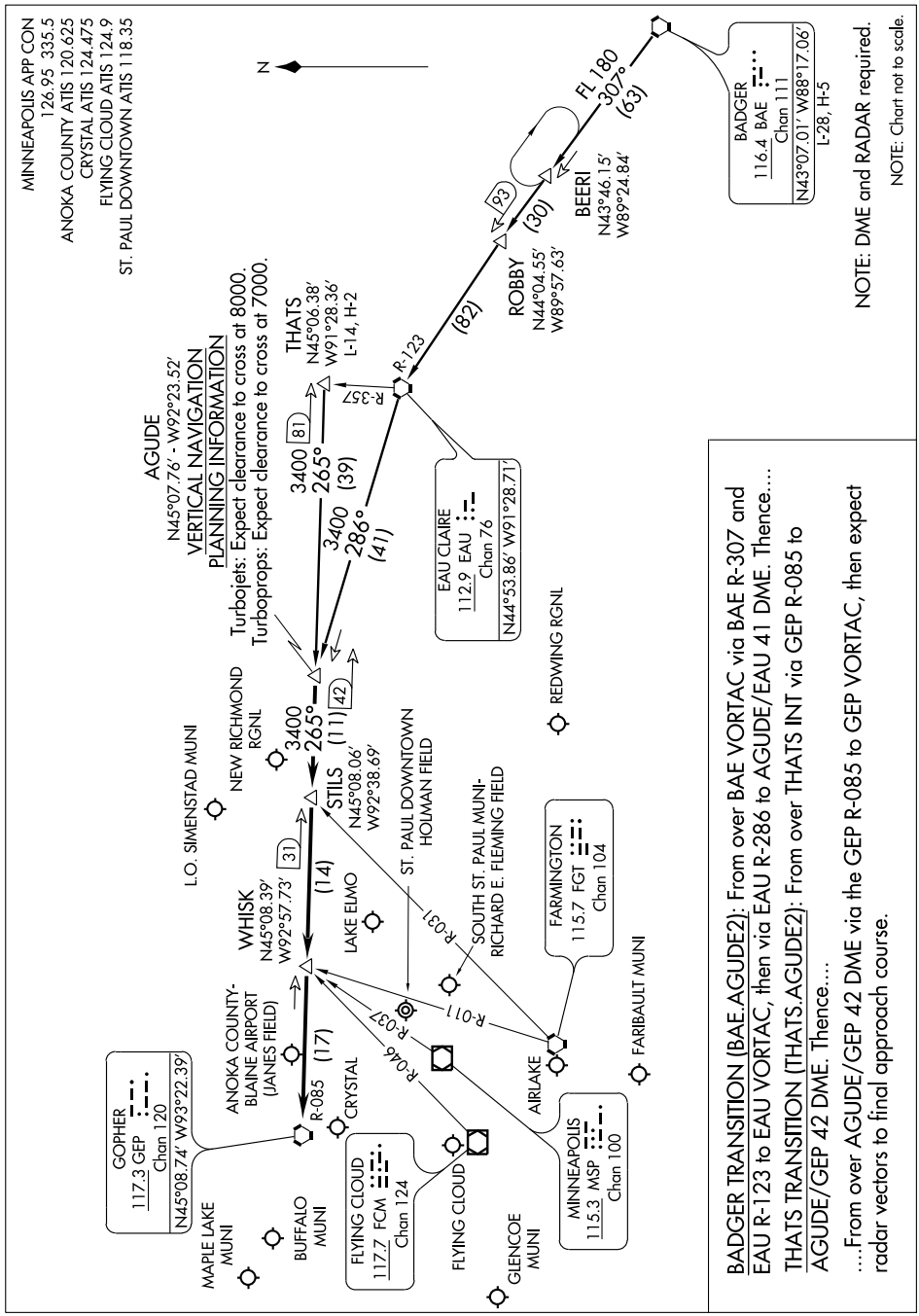
CATEGORY	A	B	C	D
S-34	1960-1 683 (700-1)		1960-2 683 (700-2)	NA
CIRCLING	1960-1 683 (700-1)		1960-2 683 (700-2)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

AGUDE TWO ARRIVAL

ST-263 (FAA)

MINNEAPOLIS-ST. PAUL, MINNESOTA



BADGER TRANSITION (BAE.AGUDE2): From over BAE VORTAC via BAE R-307 and EAU R-123 to EAU VORTAC, then via EAU R-286 to AGUDE/EAU 41 DME. Thence....

THATS TRANSITION (THATS.AGUDE2): From over THATS INT via GEP R-085 to AGUDE/GEP 42 DME. Thence....

....From over AGUDE/GEP 42 DME via the GEP R-085 to GEP VORTAC, then expect radar vectors to final approach course.

NDB GYL	APP CRS	Rwy ldg	3300
407	313°	TDZE	991
		Apt Elev	992

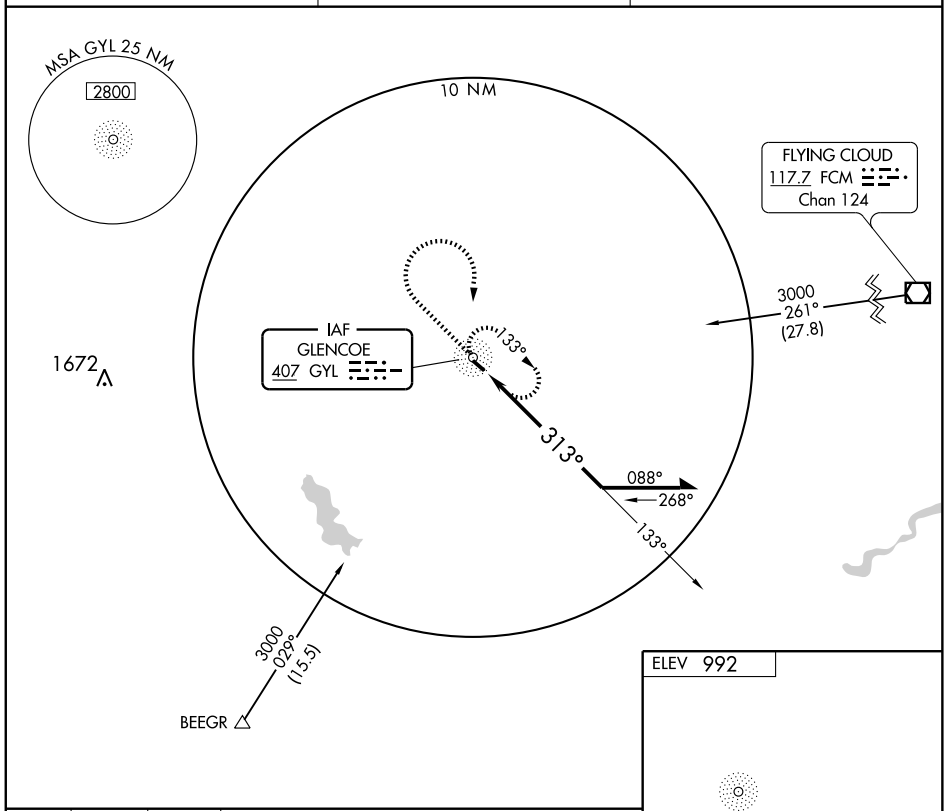
NDB RWY 31
GLENCOE MUNI (GYL)

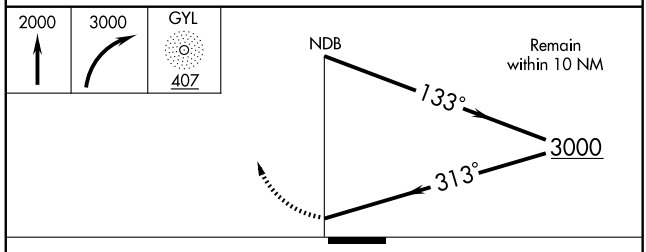
Visibility reduction by helicopters NA. When local altimeter setting not received, use Hutchison altimeter setting and increase all MDA 60 feet.

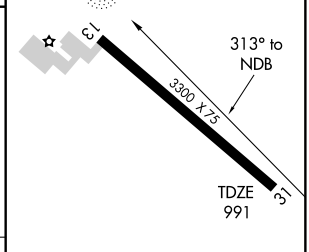
NA

MISSSED APPROACH: Climb to 2000 then climbing right turn to 3000 direct GYL NDB and hold, continue climb-in-hold to 3000.

AWOS-3	MINNEAPOLIS APP CON	UNICOM
407	134.7 284.7	122.8 (CTAF)







MIRL Rwy 13-31

CATEGORY	A	B	C	D
S-31	1580-1	589 (600-1)	NA	
CIRCLING	1580-1	588 (600-1)	NA	

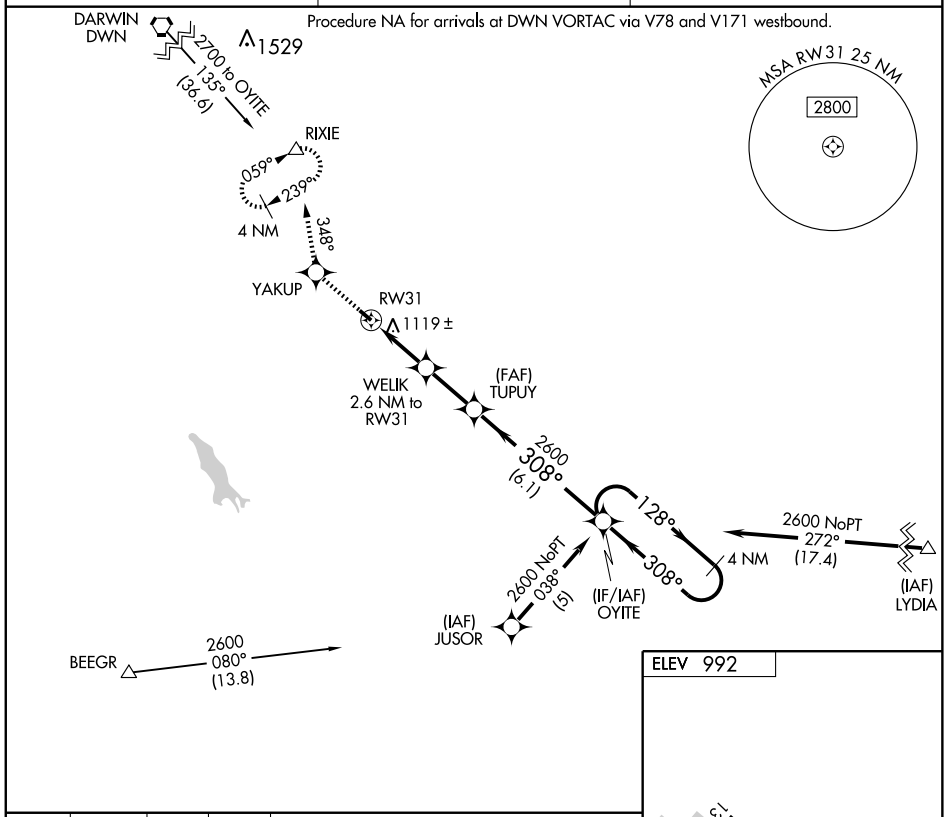
APP CRS	Rwy ldg	3300
308°	TDZE	991
	Apt Elev	992

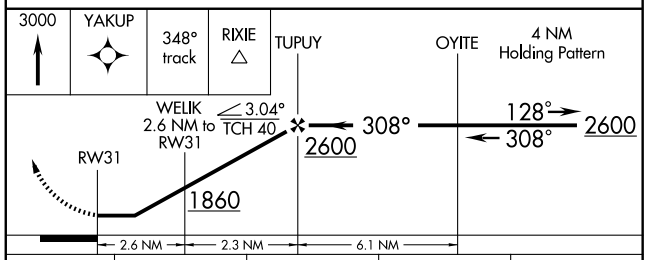
RNAV (GPS) RWY 31
GLENCOE MUNI (GYL)

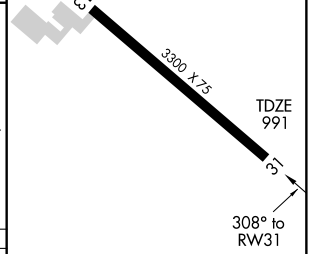
DME DME/RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Hutchinson altimeter setting and increase all MDA 60 feet.

MISSED APPROACH: Climb to 3000 direct YAKUP and via 348° track to RIXIE and hold, continue climb-in-hold to 3000.

AWOS-3	MINNEAPOLIS APP CON	UNICOM
407	134.7 284.7	122.8 (CTAF) L







CATEGORY	A	B	C	D
LNAV MDA	1380-1 389 (400-1)		NA	
CIRCLING	1440-1 448 (500-1)	1460-1 468 (500-1)	NA	

NC-1. 08 APR 2010 to 06 MAY 2010

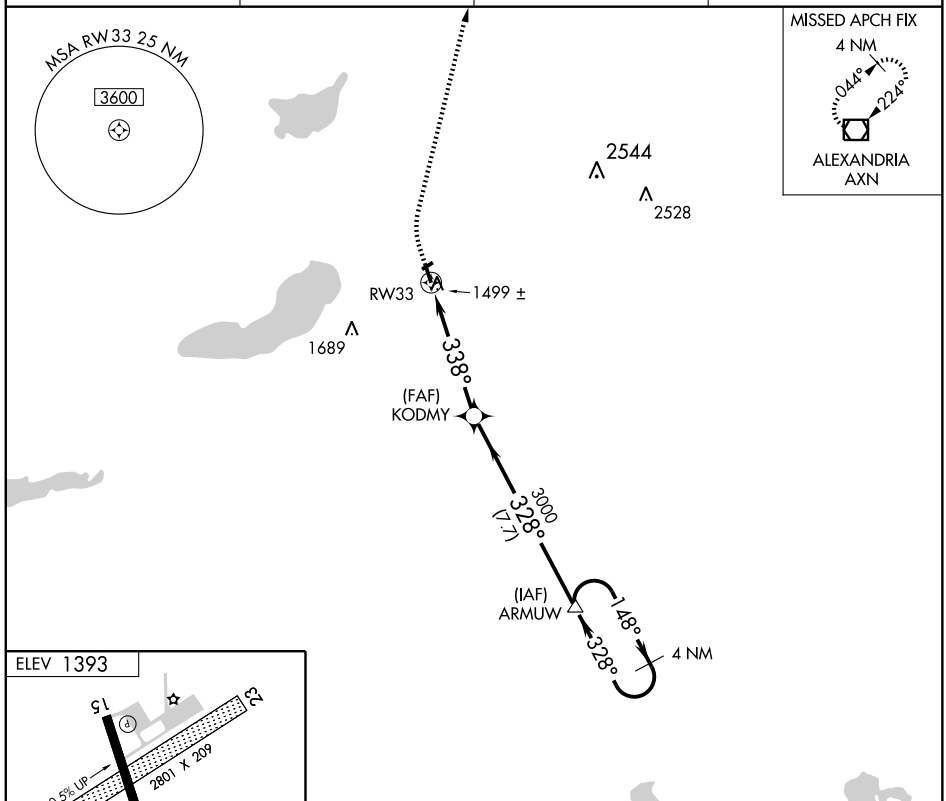
APP CRS	Rwy ldg	4500
338°	TDZE	1388
	Apt Elev	1393

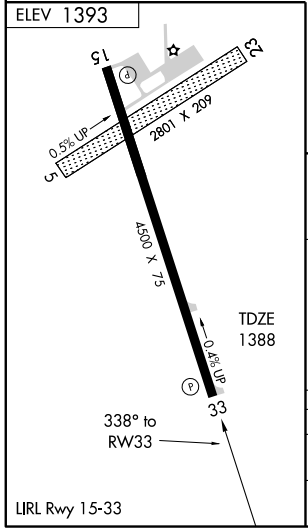
GPS RWY 33
GLENWOOD MUNI (GHW)

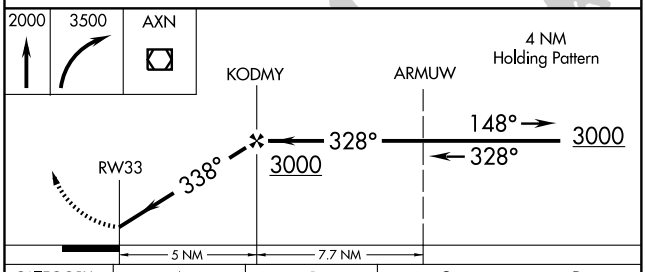
NA

MISSED APPROACH: Climb to 2000, then climbing right turn to 3500 direct AXN VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	CTAF
346	126.1 269.2	121.725	122.9







CATEGORY	A	B	C	D
S-33	1760-1 372 (400-1)			NA
CIRCLING	1820-1 427 (500-1)	1860-1 467 (500-1)	1860-1½ 467 (500-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

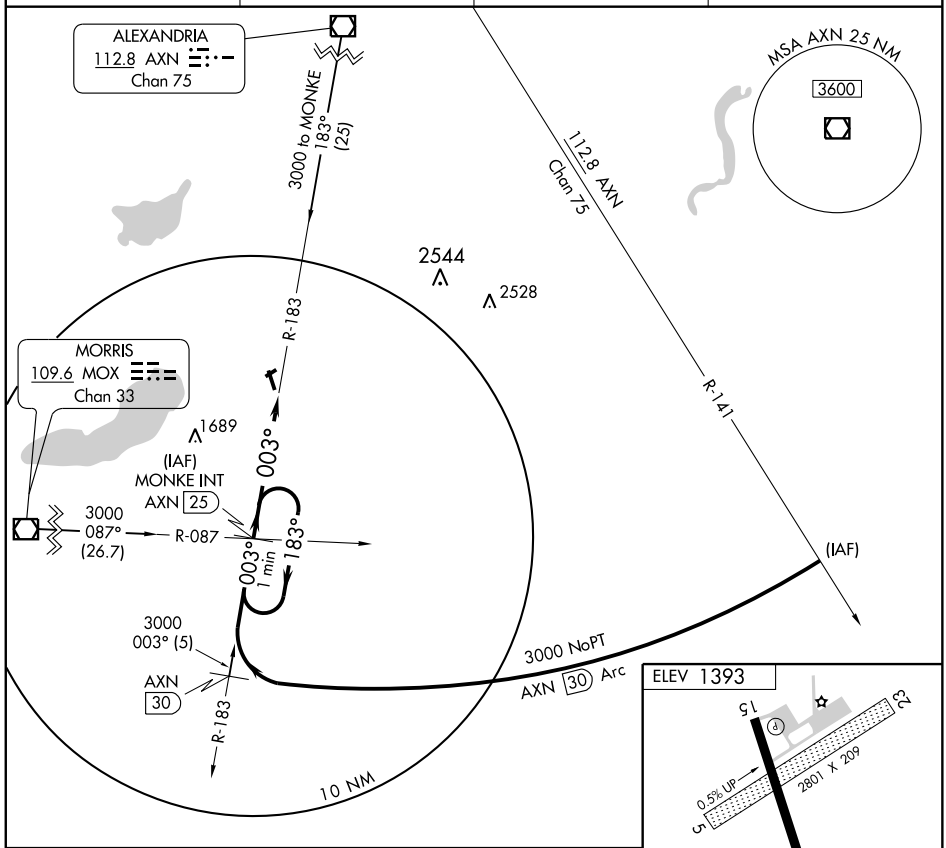
VOR/DME AXN	APP CRS	Rwy ldg	4500
112.8	003°	TDZE	1388
Chan 75		Apt Elev	1393

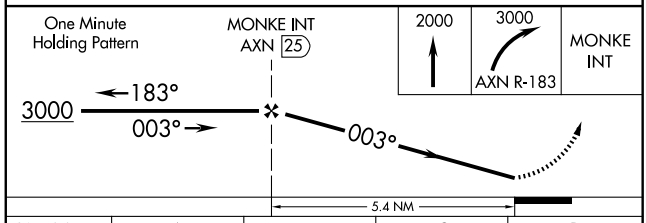
VOR RWY 33
GLENWOOD MUNI (GHW)

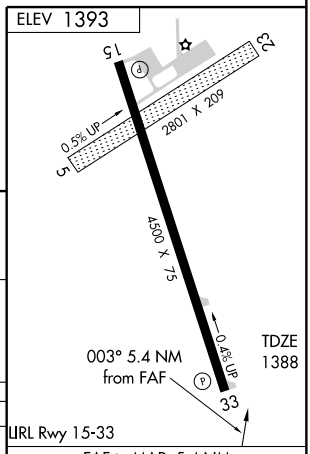
NA

MISSED APPROACH: Climb to 2000, then climbing right turn to 3000 via AXN R-183 to MONKE Int/25 DME and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	CTAF
346	126.1 269.2	121.725	122.9







CATEGORY	A	B	C	D
S-33	1880-1	492 (500-1)	1880-1¼ 492 (500-1¼)	NA
CIRCLING	1880-1	487 (500-1)	1880-1½ 487 (500-1½)	NA

FAF to MAP 5.4 NM

Knots	60	90	120	150	180
Min:Sec	5:24	3:36	2:42	2:10	1:48

NC-1. 08 APR 2010 to 06 MAY 2010

NDB CKC	APP CRS	Rwy ldg	4199
358	285°	TDZE	1797
		Apt Elev	1799

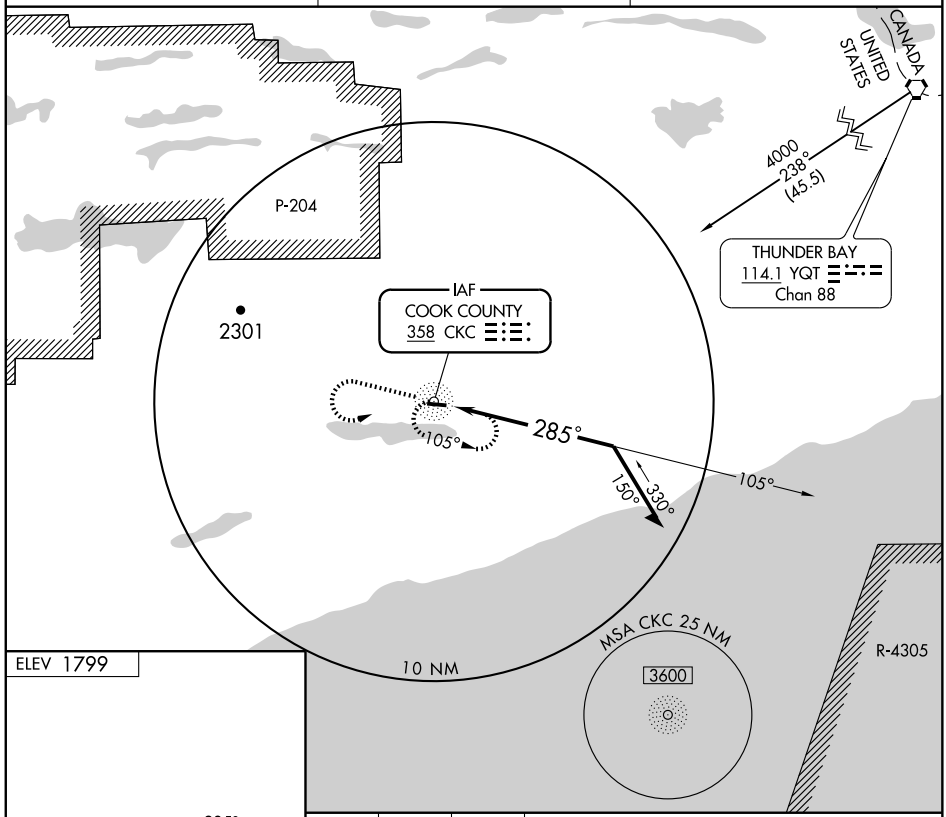
NDB RWY 27

GRAND MARAIS/COOK COUNTY (CKC)

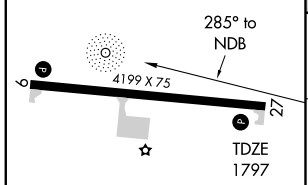
NA

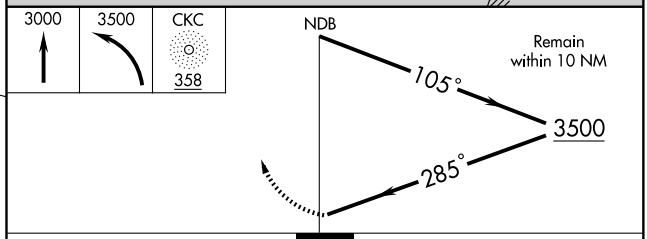
MISSED APPROACH: Climb to 3000, then climbing left turn to 3500 direct CKC NDB and hold.

AWOS-3	PRINCETON RADIO	UNICOM
119.925	122.3	122.8 (CTAF) L



ELEV 1799





CATEGORY	A	B	C	D
S-27	2340-1	543 (600-1)	2340-1½ 543 (600-1½)	NA
CIRCLING	2340-1	541 (600-1)	2340-1½ 541 (600-1½)	NA

MIRL Rwy 9-27 L
REIL Rwys 9 and 27 L

NC-1. 08 APR 2010 to 06 MAY 2010

GRAND MARAIS, MINNESOTA

AL-5643 (FAA)

APP CRS	Rwy ldg	4199
276°	TDZE	1797
	Apt Elev	1799

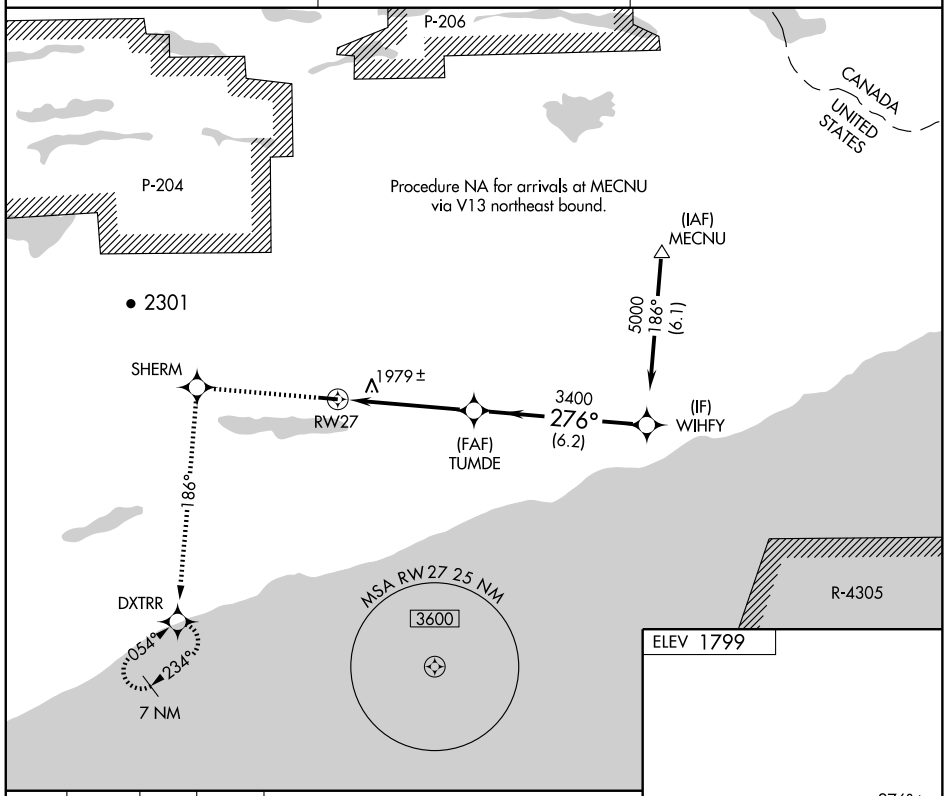
RNAV (GPS) RWY 27

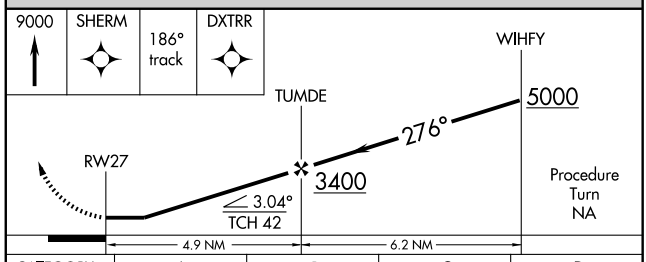
GRAND MARAIS/COOK COUNTY (CKC)

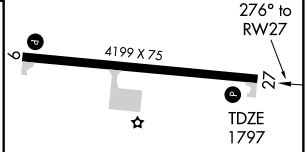
DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Ely altimeter setting and increase all MDA 200 feet, increase LNAV Cat C visibility ½ mile, circling Cat B visibility ¼ mile, and circling Cat C visibility ¾ mile.

MISSED APPROACH: Climb to 9000 direct SHERM and via 186° track to DXTRR and hold, continue climb-in-hold to 9000.

AWOS-3	PRINCETON RADIO	UNICOM
119.925	122.3	122.8 (CTAF) L







ELEV 1799

CATEGORY	A	B	C	D
LNAV MDA	2240-1 443 (500-1)		2240-1¼ 443 (500-1¼)	NA
CIRCLING	2340-1 541 (600-1)		2340-1½ 541 (600-1½)	NA

MIRL Rwy 9-27 L

REIL Rwys 9 and 27 L

NC-1. 08 APR 2010 to 06 MAY 2010

GRAND RAPIDS, MINNESOTA

AL-5258 (FAA)

LOC I-GPZ	APP CRS	Rwy ldg	5755
110.1	344°	TDZE	1355
		Apt Elev	1355

ILS RWY 34

GRAND RAPIDS/ ITASCA COUNTY-GORDON NEWSTROM FIELD (GPZ)

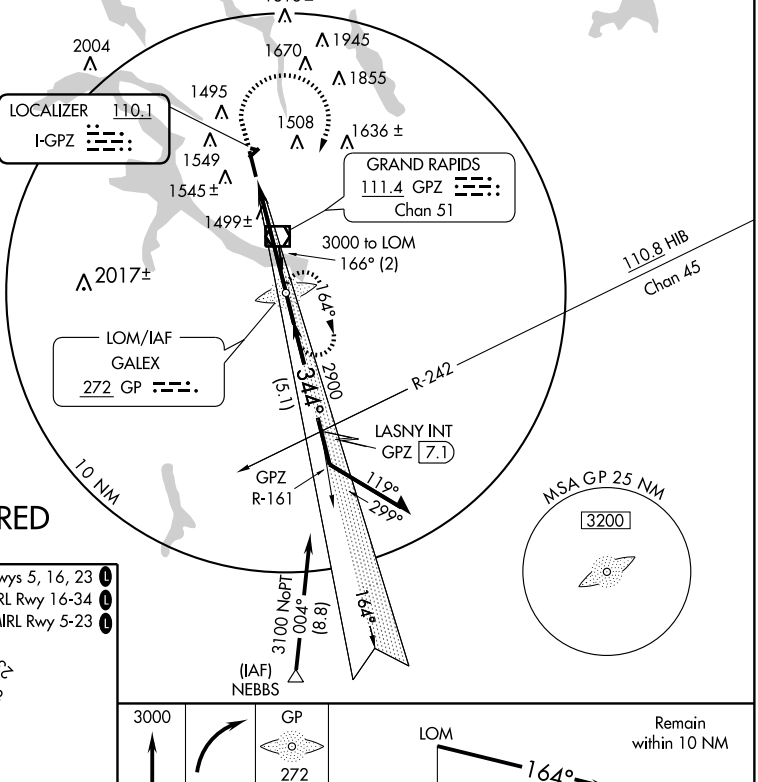
Circling not authorized at night to Rwys 10-28 and 5-23.

NA

MALSR

MISSED APPROACH: Climb to 3000, then right turn direct GALEX LOM and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
118.425	127.9 281.45	122.8 (CTAF) L



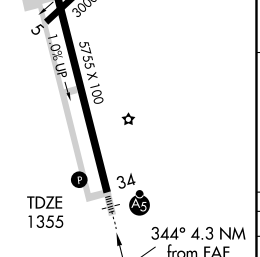
ADF REQUIRED

ELEV 1355

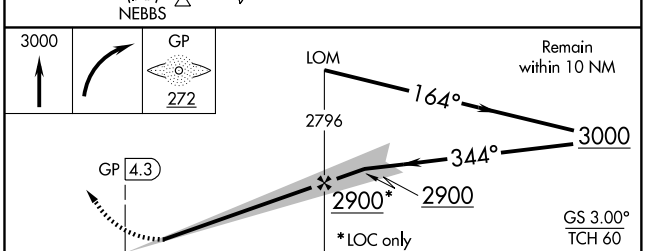
REIL Rwys 5, 16, 23 L

HIRL Rwy 16-34 L

MIRL Rwy 5-23 L



FAF to MAP 4.3 NM					
Knots	60	90	120	150	180
Min:Sec	4:18	2:52	2:09	1:43	1:26



CATEGORY	A	B	C	D
S-ILS 34	1555-½ 200 (200-½)			
S-LOC 34	1760-½ 405 (500-½)		1760-¾ 405 (500-¾)	1760-1 405 (500-1)
CIRCLING	1860-1 505 (600-1)	1900-1 545 (600-1)	1900-1½ 545 (600-1½)	1920-2 565 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	5332
164°	TDZE	1332
	Apt Elev	1355

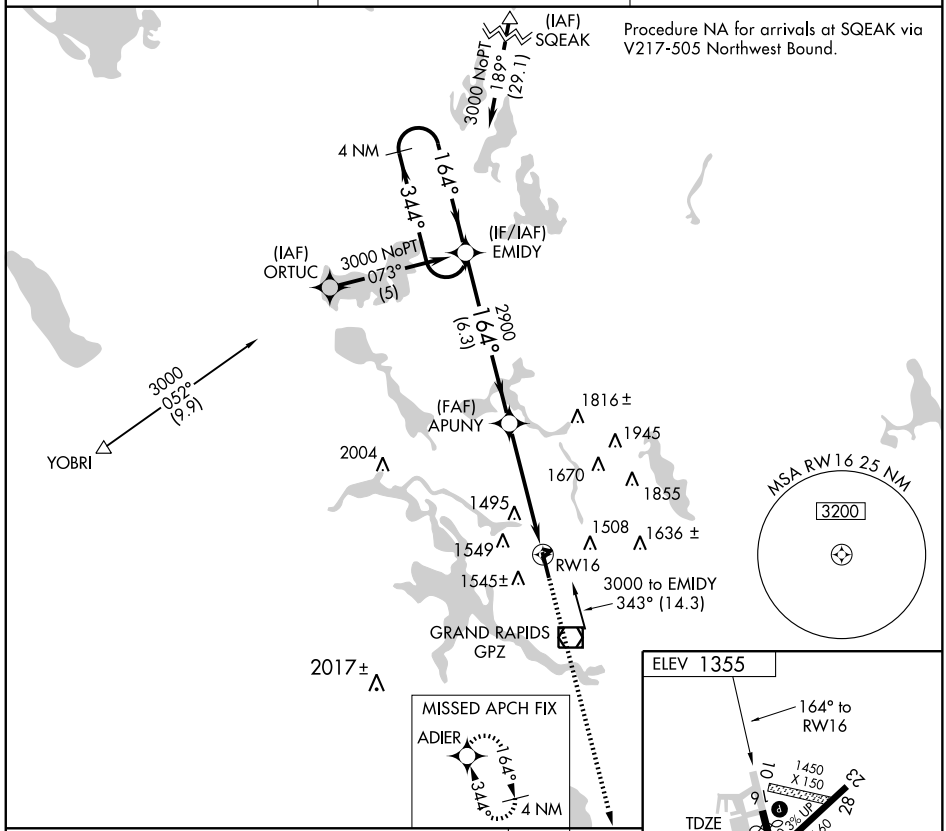
RNAV (GPS) RWY 16

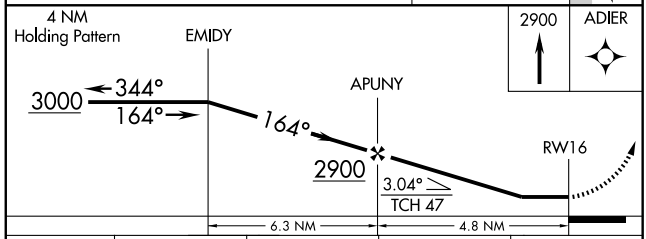
GRAND RAPIDS/ITASCA COUNTY-GORDON NEWSTROM FIELD (GPZ)

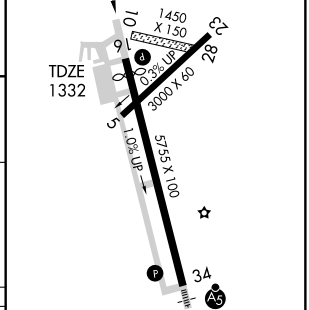
Circling to Rwy 10-28 and 5-23 NA at night. DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Hibbings altimeter setting and increase all MDA 80 feet and increase LNAV and Circling Cat. C visibility ¼ mile.

MISSED APPROACH: Climb to 2900 direct ADIER and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
118.425	127.9 281.45	122.8 (CTAF) L







CATEGORY	A	B	C	D
LNAV MDA	1760-1 428 (500-1)		1760-1¼ 428 (500-1¼)	1760-1½ 428 (500-1½)
CIRCLING	1900-1 545 (600-1)		1900-1½ 545 (600-1½)	1920-2 565 (600-2)

MIRL Rwy 5-23 L
HIRL Rwy 16-34 L
REIL Rwys 5, 16, 23 L

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 86412 W34A	APP CRS 344°	Rwy ldg 5755 TDZE 1355 Apt Elev 1355

GRAND RAPIDS/ ITASCA COUNTY-GORDON NEWSTROM FIELD (GPZ)

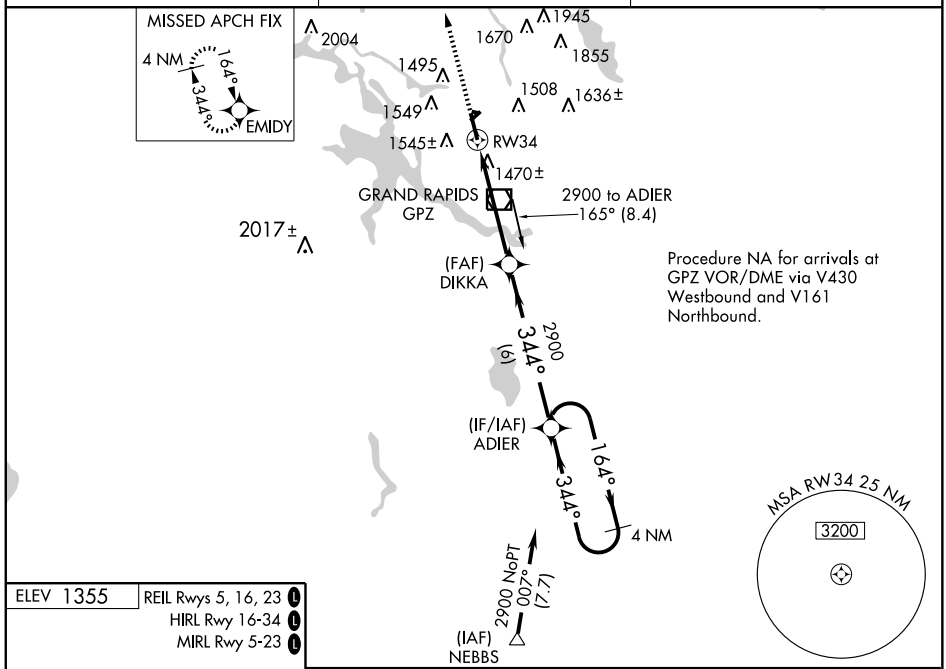
RNAV (GPS) RWY 34

Circling to Rwy 10-28 and 5-23 NA at night. For inoperative MALSR when using KHIB altimeter setting, increase LPV all Cats. visibility to 1 mile. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP-0.3 NA. Baro-VNAV and VDP NA when using Hibbings altimeter setting. When local altimeter setting not received, use Hibbings altimeter setting and increase all DA 68 feet and all MDA 80 feet, increase LNAV/VNAV all Cats., LNAV Cat. D, and Circling Cat. C visiblity ¼ mile.

MALSR

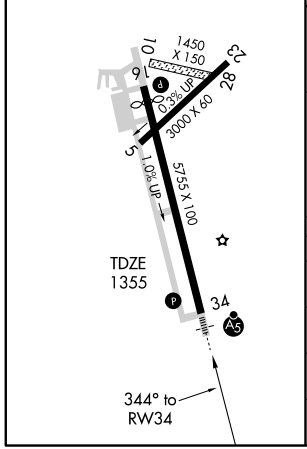
MISSED APPROACH: Climb to 3000 direct EMIDY and hold.

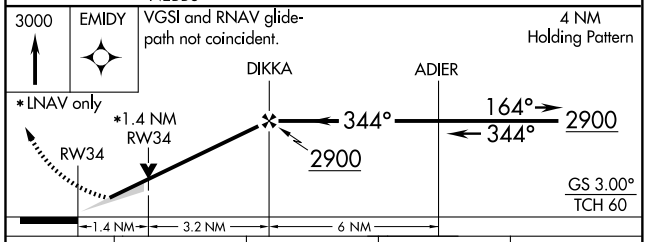
AWOS-3	MINNEAPOLIS CENTER	UNICOM
118.425	127.9 281.45	122.8 (CTAF) L



ELEV 1355

REIL Rwys 5, 16, 23 L
HIRL Rwy 16-34 L
MIRL Rwy 5-23 L





CATEGORY	A	B	C	D
LPV DA	1555-½ 200 (200-½)			
LNAV/VNAV DA	1747-¾ 392 (400-¾)			
LNAV MDA	1860-½ 505 (600-½)		1860-1 505 (600-1)	
CIRCLING	1900-1 545 (600-1)		1900-1½ 545 (600-1½)	1920-2 565 (600-2)

VOR/DME GPZ	APP CRS	Rwy ldg	5755
111.4	334°	TDZE	1355
Chan 51		Apt Elev	1355

VOR RWY 34

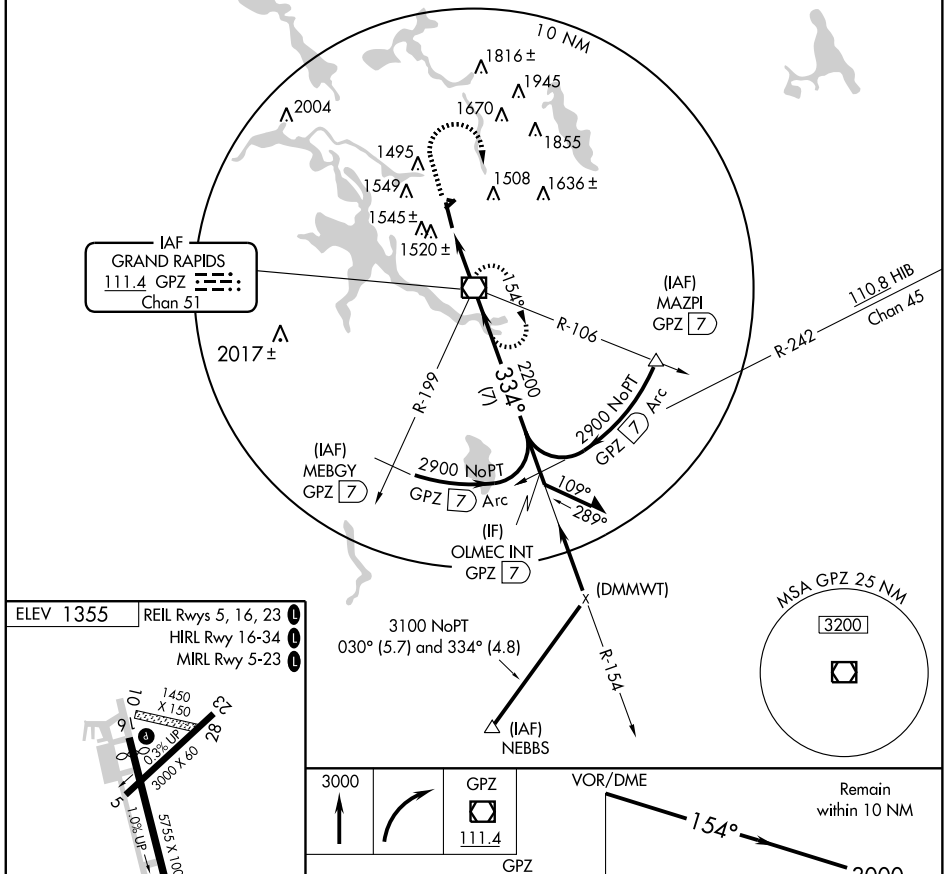
GRAND RAPIDS/ ITASCA COUNTY-GORDON NEWSTROM FIELD (GPZ)

Circling to Rwy 10-28 and 5-23 NA at night. When local altimeter setting not received, use Hibbings altimeter setting and increase all MDA 80 feet, increase S-34 Cat. C and D and Circling Cat C visibility ¼ mile. VDP NA when using Hibbings altimeter setting.

MALSR

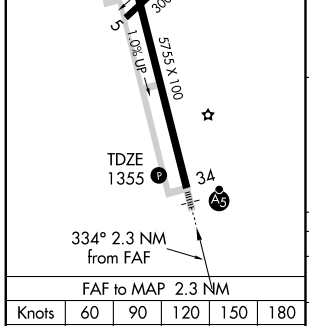
MISSED APPROACH: Climb to 3000 then right turn direct GPZ VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
118.425	127.9 281.45	122.8 (CTAF) L

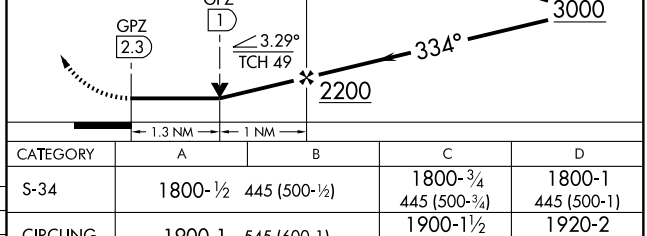


ELEV 1355

REIL Rwys 5, 16, 23 L
HIRL Rwy 16-34 L
MIRL Rwy 5-23 L



FAF to MAP 2.3 NM					
Knots	60	90	120	150	180
Min:Sec	2:18	1:32	1:09	0:55	0:46



CATEGORY	A	B	C	D
S-34	1800-½ 445 (500-½)		1800-¾ 445 (500-¾)	1800-1 445 (500-1)
CIRCLING	1900-1 545 (600-1)		1900-1½ 545 (600-1½)	1920-2 565 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	3700
333°	TDZE	1045
	Apt Elev	1047

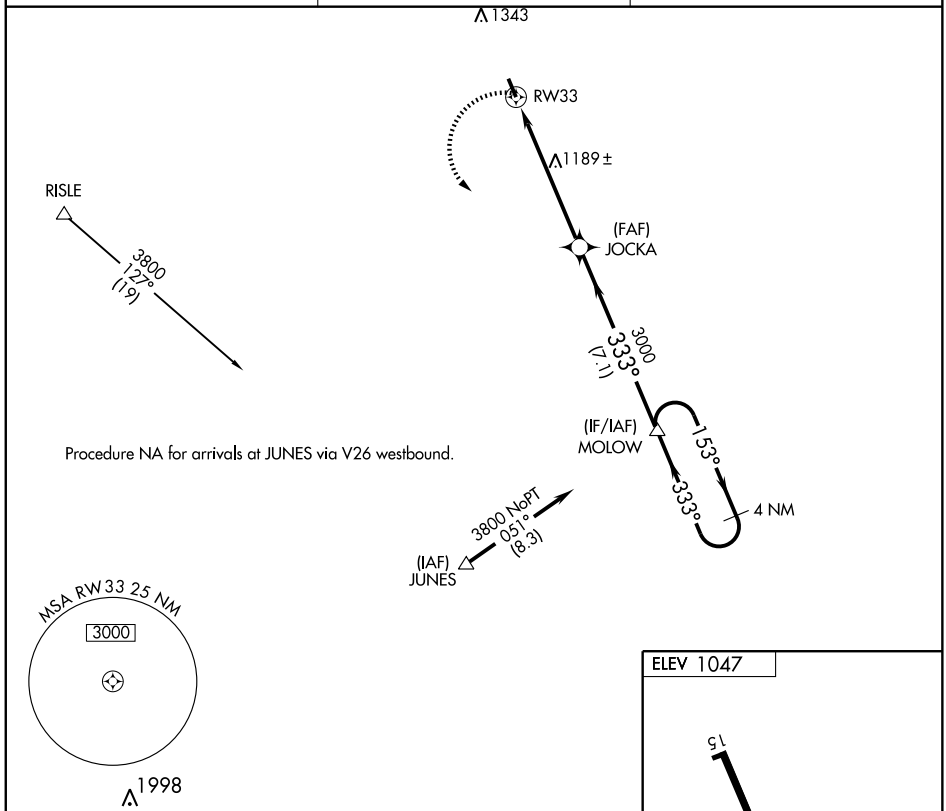
RNAV (GPS) RWY 33

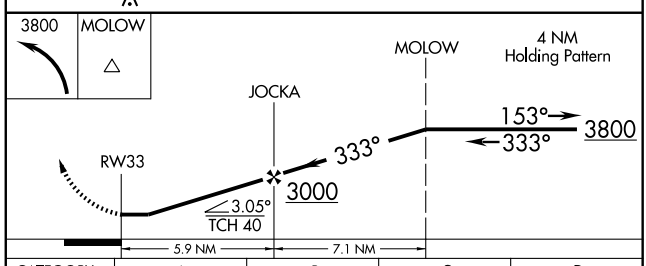
GRANITE FALLS MUNI/ LENZEN-ROE MEMORIAL FIELD (GDB)

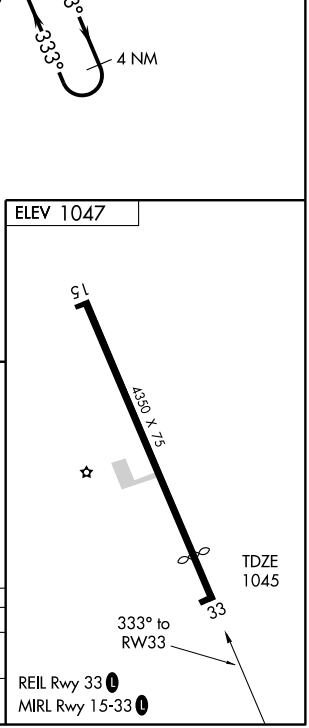
DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Montevideo altimeter setting and increase all MDA 40 feet.

MISSED APPROACH: Climbing left turn to 3800 direct MOLOW and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
120.1	127.1 290.2	122.8 (CTAF) L







CATEGORY	A	B	C	D
LNAV MDA	1480-1 435 (500-1)		1480-1¼ 435 (500-1¼)	1480-1½ 435 (500-1½)
CIRCLING	1480-1 433 (500-1)	1500-1 453 (500-1)	1500-1½ 453 (500-1½)	1600-2 553 (600-2)

VOR/DME MVE	APP CRS	Rwy ldg	3700
111.6	328°	TDZE	1045
Chan 53		Apt Elev	1047

VOR/DME RWY 33

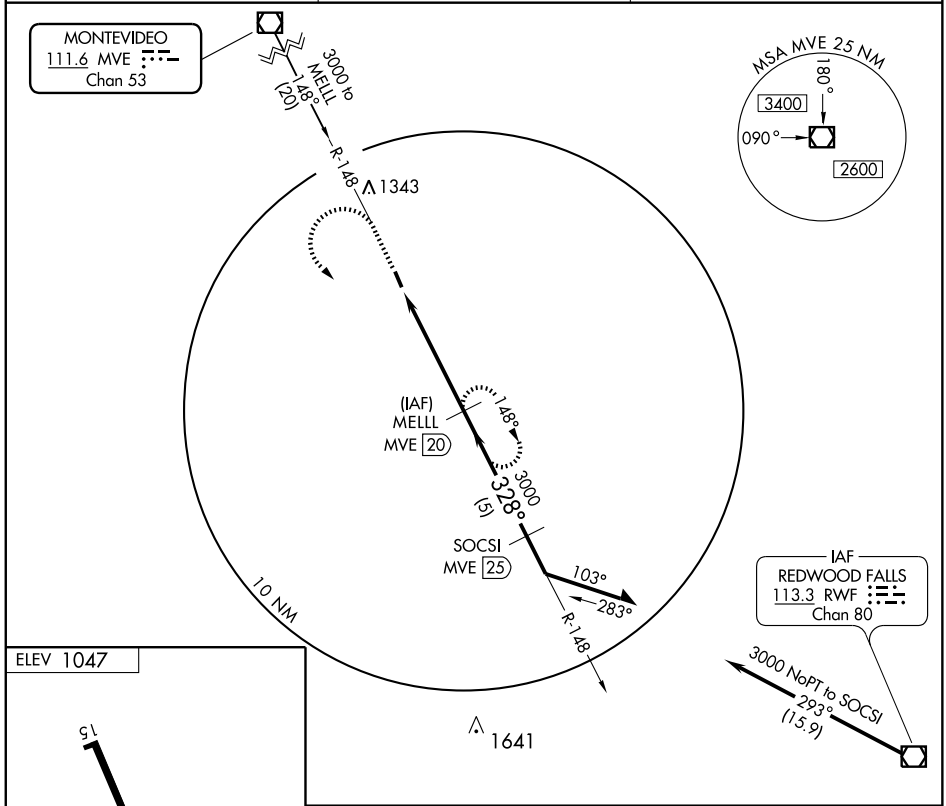
GRANITE FALLS MUNI/LENZEN-ROE MEMORIAL FIELD (GDB)

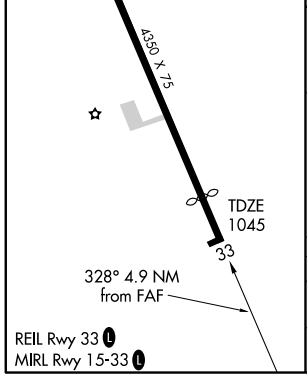
NA

When local altimeter setting not received, use Montevideo altimeter setting.

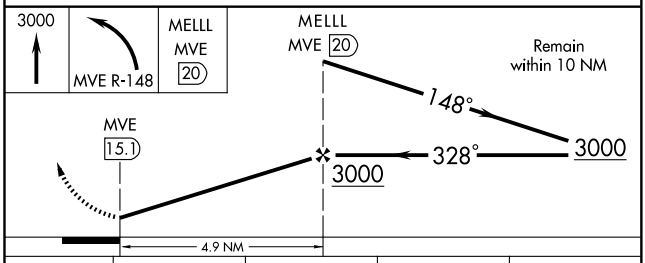
MISSED APPROACH: Climb to 3000, then left turn via R-148 to MELLL/MVE 20 DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
120.1	127.1 290.2	122.8 (CTAF) L





REIL Rwy 33 L
MIRL Rwy 15-33 L



CATEGORY	A	B	C	D
S-33	1480-1	435 (500-1)	1480-1¼ 435 (500-1¼)	1480-1½ 435 (500-1½)
CIRCLING	1520-1	473 (500-1)	1520-1½ 473 (500-1½)	1600-2 553 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

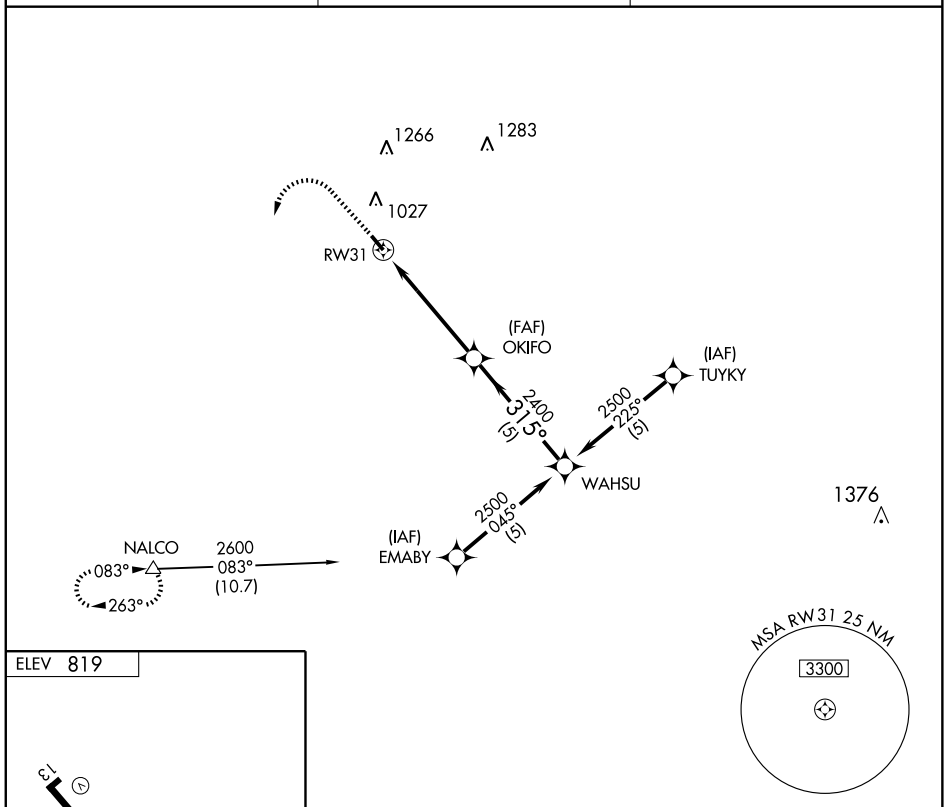
APP CRS	Rwy ldg	4007
315°	TDZE	819
	Apt Elev	819

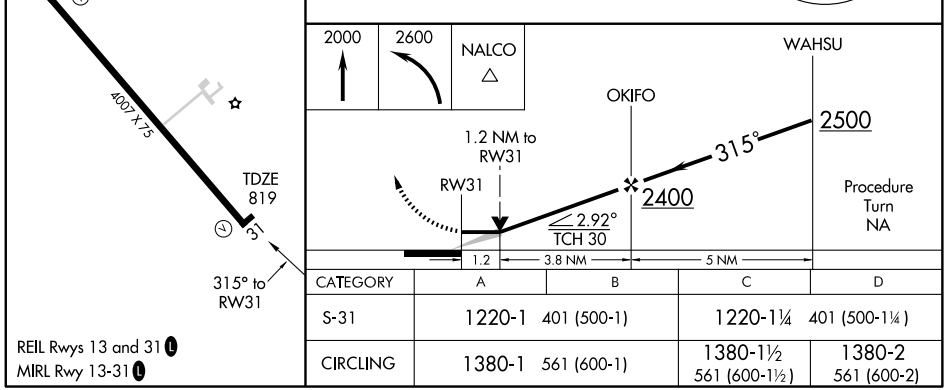
GPS RWY 31
HALLOCK MUNI (HCO)

NA

MISSED APPROACH: Climb to 2000 then climbing left turn to 2600 direct NALCO WP and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
126.475	132.15 269.6	122.8 (CTAF) L





CATEGORY	A	B	C	D
S-31	1220-1 401 (500-1)		1220-1¼ 401 (500-1¼)	
CIRCLING	1380-1 561 (600-1)		1380-1½ 561 (600-1½)	1380-2 561 (600-2)

REIL Rwys 13 and 31 L
MIRL Rwy 13-31 L

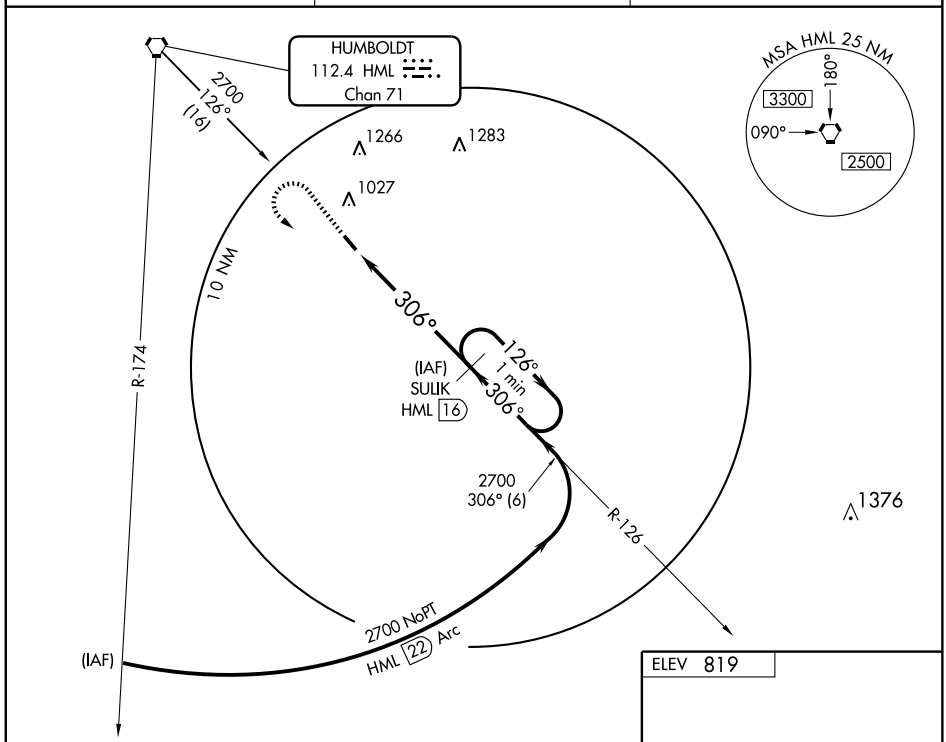
VORTAC HML 112.4 Chan 71	APP CRS 306°	Rwy ldg 4007 TDZE 819 Apt Elev 819

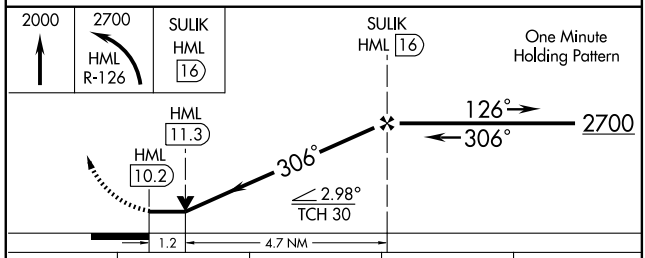
VOR/DME RWY 31
HALLOCK MUNI (HCO)

NA

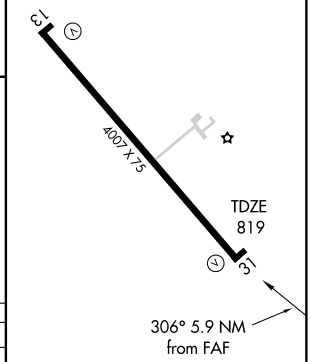
MISSED APPROACH: Climb to 2000 then climbing left turn to 2700 via HML R-126 to SULIK and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
126.475	132.15 269.6	122.8 (CTAF) L





CATEGORY	A	B	C	D
S-31	1220-1 401 (500-1)		1220-1¼ 401 (500-1¼)	
CIRCLING	1380-1 561 (600-1)		1380-1½ 561 (600-1½)	1380-2 561 (600-2)



REIL Rwys 13 and 31 L
MIRL Rwy 13-31 L

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	3404
336°	TDZE	1205
	Apt Elev	1209

RNAV (GPS) RWY 34
HAWLEY MUNI (Ø4Y)

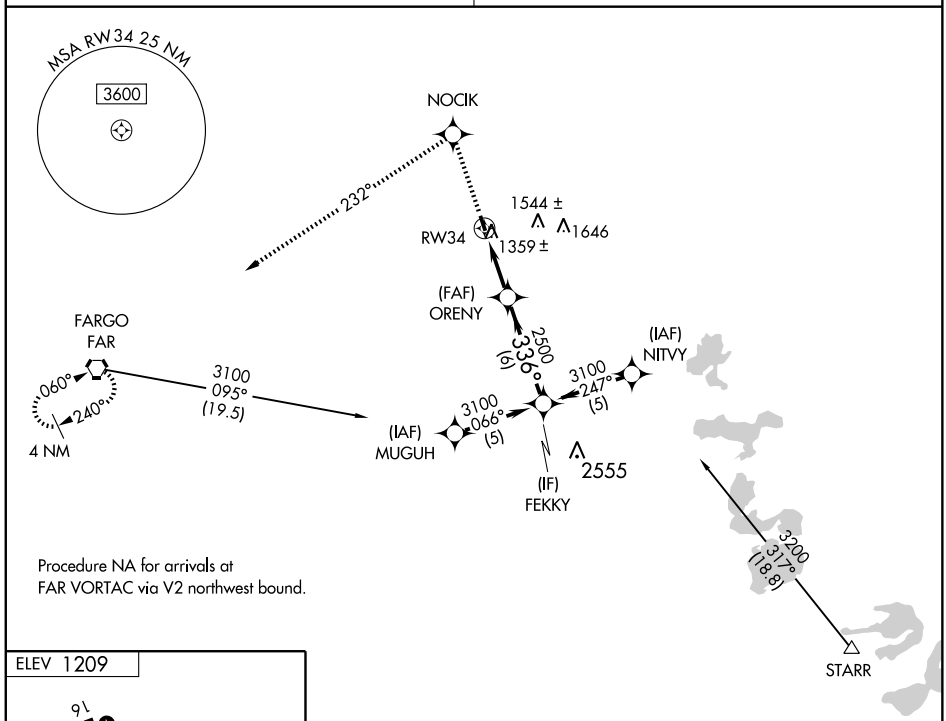
Use Fargo, ND altimeter setting.
DME/DME RNP-0.3 NA.

NA

MISSED APPROACH: Climb to 2700 direct NOCIK and left turn via 232° track to FAR VORTAC and hold.

FARGO APP CON ★
120.4 377.15

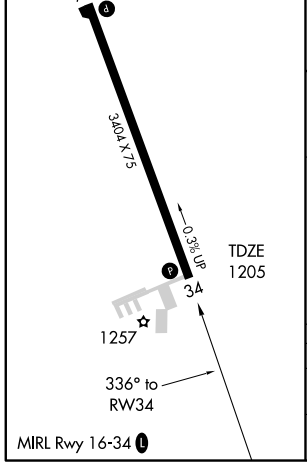
UNICOM
122.8 (CTAF) L



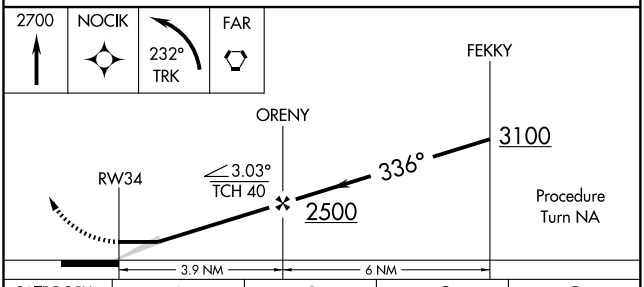
Procedure NA for arrivals at
FAR VORTAC via V2 northwest bound.

Procedure NA for arrivals at
STARR via V171 southeast bound.

ELEV 1209



MIRL Rwy 16-34 L



CATEGORY	A	B	C	D
LNAV MDA	1700-1 495 (500-1)		1700-1¼ 495 (500-1¼)	NA
CIRCLING	1760-1 551 (600-1)		1760-1½ 551 (600-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

VORTAC FAR	APP CRS	Rwy Idg	N/A
116.2	060°	TDZE	N/A
Chan 109		Apt Elev	1209

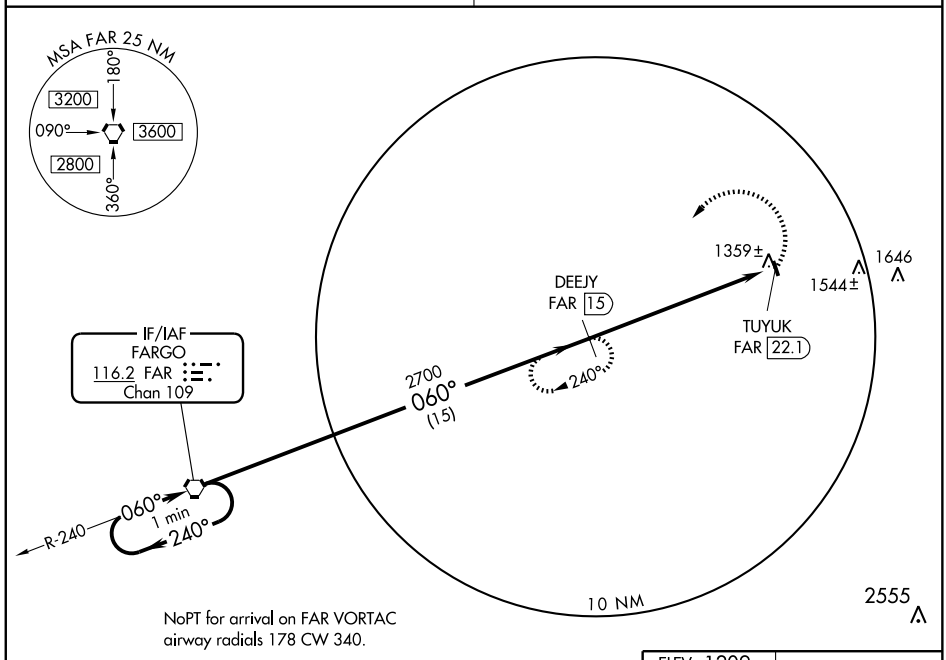
VOR/DME-A
HAWLEY MUNI (Ø4Y)

NA

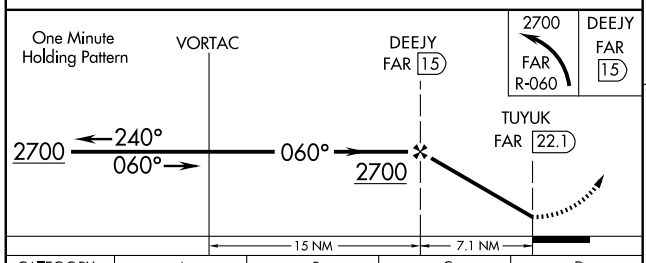
Use Fargo, ND altimeter setting.

MISSED APPROACH: Climbing left turn to 2700 via FAR R-060 to DEEJY/15 DME and hold.

FARGO APP CON ★	UNICOM
120.4 377.15	122.8 (CTAF)

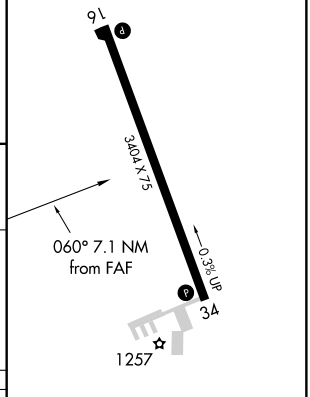


NoPT for arrival on FAR VORTAC airway radials 178 CW 340.



CATEGORY	A	B	C	D
CIRCLING	1760-1 551 (600-1)	1760-1¼ 551 (600-1¼)	1760-1½ 551 (600-1½)	NA

ELEV 1209



MIRL Rwy 16-34

NC-1, 08 APR 2010 to 06 MAY 2010

LOC I-JAE	APP CRS	Rwy ldg	6760
110.5	130°	TDZE	1353
		Apt Elev	1353

ILS or LOC/DME RWY 13

HIBBING/ RANGE RGNL (HIB)

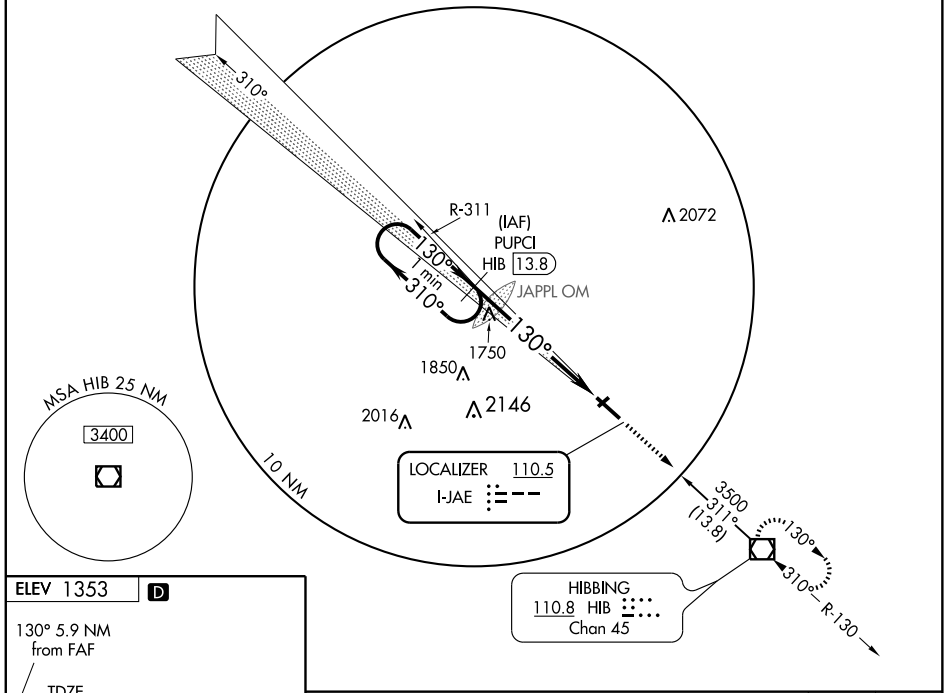
Autopilot couple approach NA below 2388.

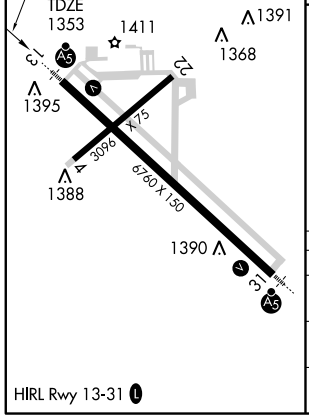
MALSR

MISSED APPROACH: Climb to 3600 direct HIB VOR/DME and hold.

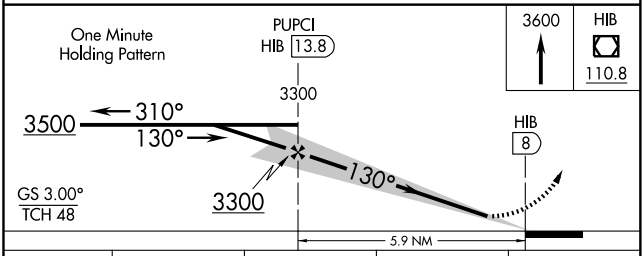
ASOS	DULUTH APP CON★	CLNC DEL	UNICOM
126.425	125.45 255.9	127.4	123.0 (CTAF) L

DME REQUIRED





HIRL Rwy 13-31 L



CATEGORY	A	B	C	D
S-ILS 13	1553-½ 200 (200-½)			
S-LOC 13	2060-½ 707 (800-½)		2060-1½ 707 (800-1½)	2060-1¾ 707 (800-1¾)
CIRCLING	2060-1 707 (800-1)		2060-1½ 707 (800-1½)	2060-2 707 (800-2)

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-HIB	APP CRS	Rwy ldg	6760
109.5	310°	TDZE	1343
		Apt Elev	1353

ILS or LOC RWY 31

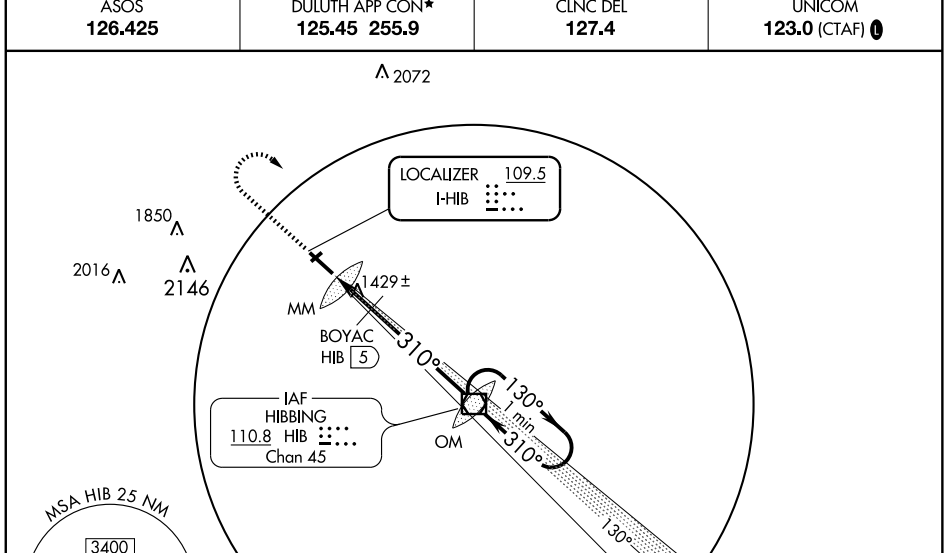
HIBBING/ RANGE RGNL (HIB)

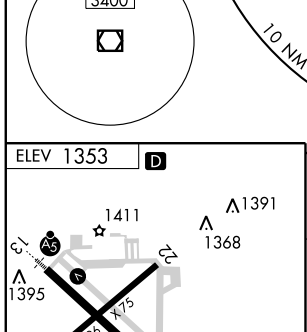
For inoperative MALSR, increase BOYAC FIX MINIMUMS S-LOC 31 Category D visibility to 1. #DME from HIB VOR/DME.

MALSR A5

MISSED APPROACH: Climb to 2500 then climbing right turn to 3600 direct HIB VOR/DME and hold.

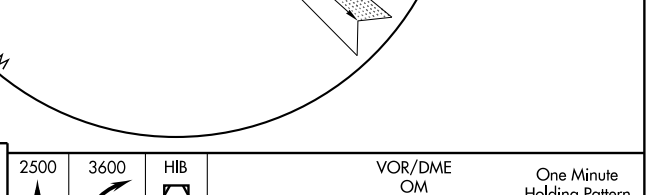
ASOS	DULUTH APP CON*	CLNC DEL	UNICOM
126.425	125.45 255.9	127.4	123.0 (CTAF) L





HIRL Rwy 13-31 L

FAF to MAP 6.9 NM					
Knots	60	90	120	150	180
Min:Sec	6:54	4:36	3:27	2:46	2:18



CATEGORY	A	B	C	D
S-ILS 31	1543-½ 200 (200-½)			
S-LOC 31	1740-½ 397 (400-½)			1740-¾ 397 (400-¾)
CIRCLING	1820-1 467 (500-1)	1840-1 487 (500-1)	1840-1½ 487 (500-1½)	1920-2 567 (600-2)
# BOYAC FIX MINIMUMS				
S-LOC 31	1680-½ 337 (400-½)			1680-¾ 337 (400-¾)
CIRCLING	1820-1 467 (500-1)	1840-1 487 (500-1)	1840-1½ 487 (500-1½)	1920-2 567 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	3096
047°	TDZE	1350
	Apt Elev	1353

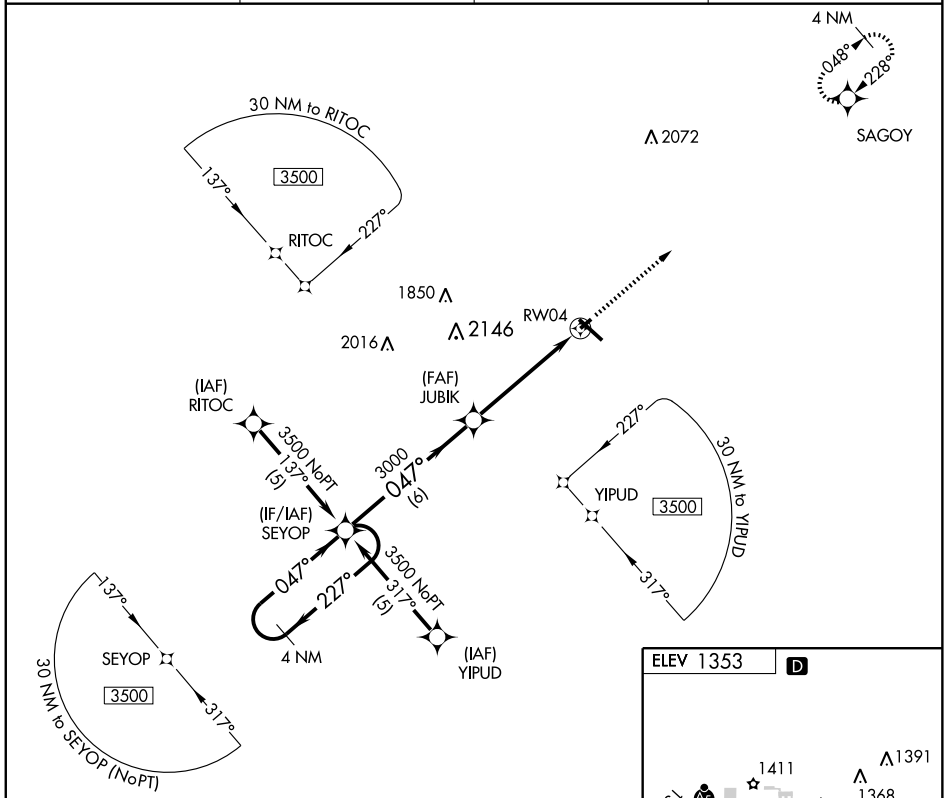
RNAV (GPS) RWY 4

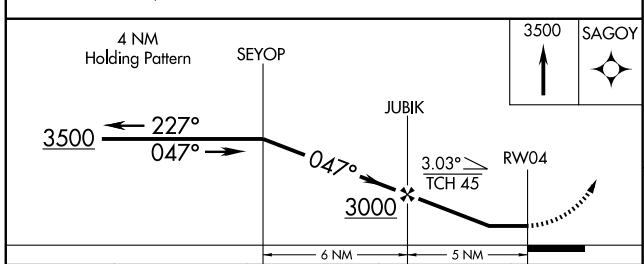
HIBBING/ RANGE RGNL (HIB)

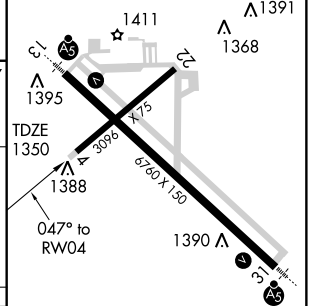
Procedure not authorized at night.
NA GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 3500 direct SAGOY WP and hold.

ASOS	DULUTH APP CON★	CLNC DEL	UNICOM
126.425	125.45 255.9	127.4	123.0 (CTAF) L







CATEGORY	A	B	C	D
LNAV MDA	1780-1 430 (500-1)		NA	
CIRCLING	1820-1 467 (500-1)	1840-1 487 (500-1)	NA	

HIRL Rwy 13-31 L

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	6760
130°	TDZE	1353
	Apt Elev	1353

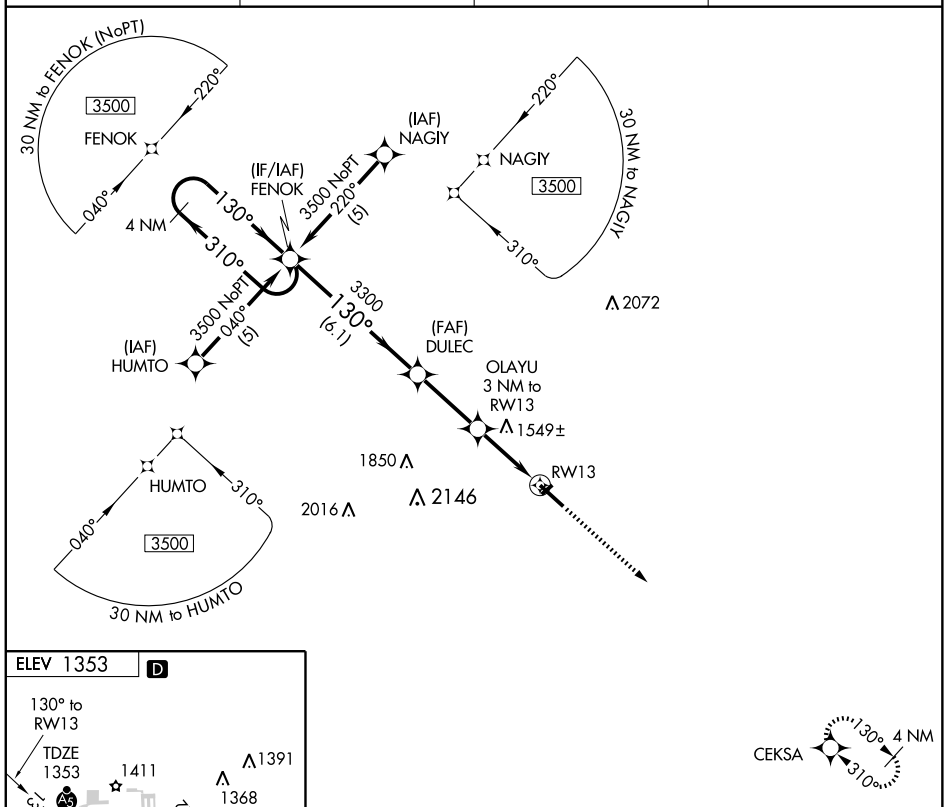
RNAV (GPS) RWY 13
HIBBING/ RANGE RGNL (HIB)

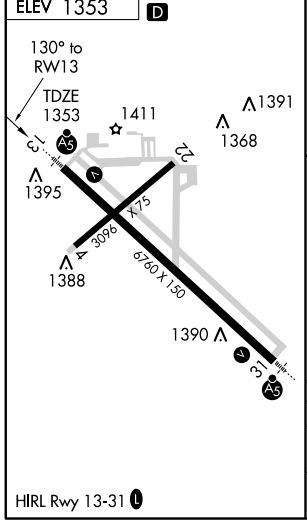
T Circling not authorized at night to Rwy 4-22.
NA GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.
For inoperative MALSR, increase LNAV MDA Cat. A and B to 1 mile.

MALSR A5

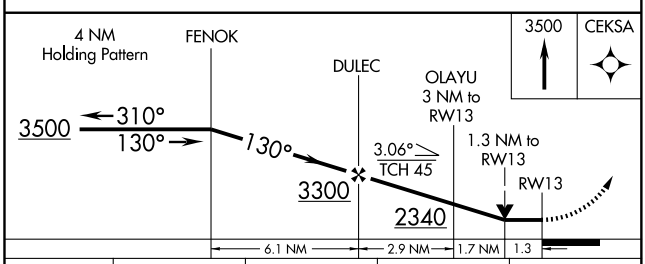
MISSED APPROACH: Climb to 3500 direct CEKSA WP and hold.

ASOS	DULUTH APP CON★	CLNC DEL	UNICOM
126.425	125.45 255.9	127.4	123.0 (CTAF) L





HIRL Rwy 13-31 L



CATEGORY	A	B	C	D
LNAV MDA	1800-¾ 447 (500-¾)			1800-1 447 (500-1)
CIRCLING	1820-1 467 (500-1)	1840-1 487 (500-1)	1840-1½ 487 (500-1½)	1920-2 567 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	3096
227°	TDZE	1350
	Apt Elev	1353

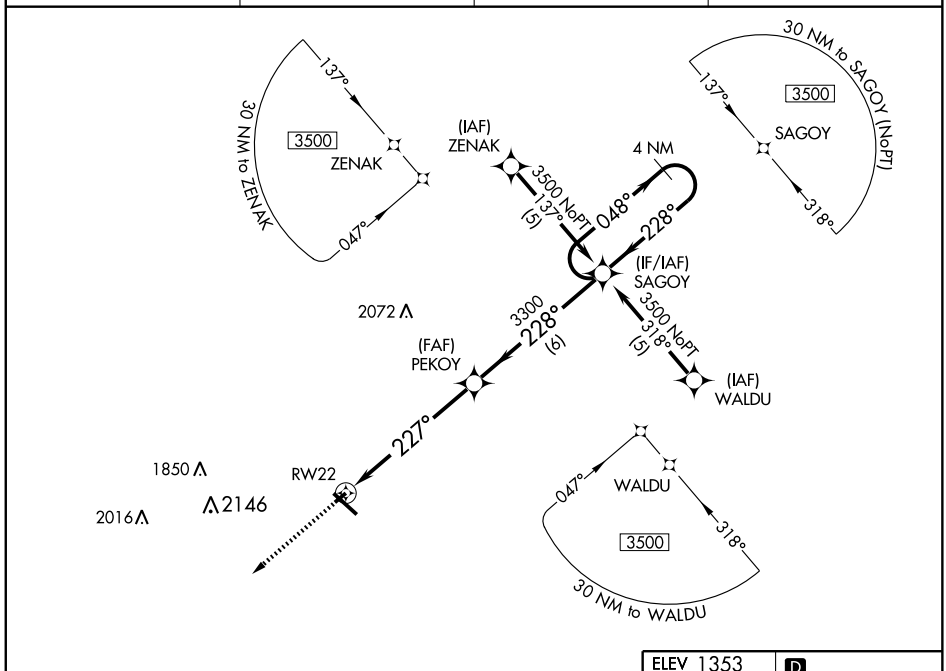
RNAV (GPS) RWY 22

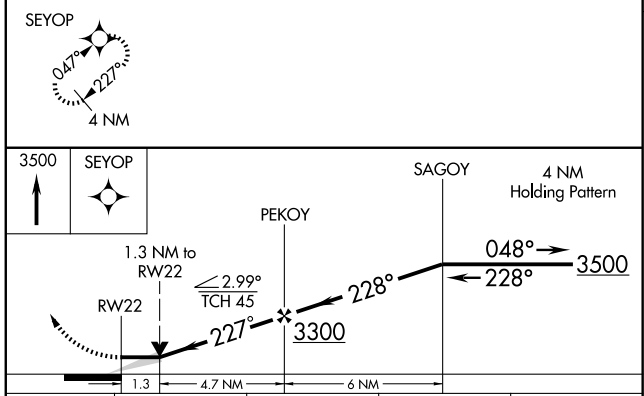
HIBBING/ RANGE RGNL (HIB)

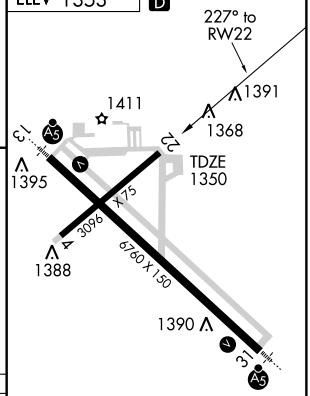
Procedure not authorized at night.
GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 3500 direct SEYOP WP and hold.

ASOS	DULUTH APP CON★	CLNC DEL	UNICOM
126.425	125.45 255.9	127.4	123.0 (CTAF) L







HIRL Rwy 13-31 L

CATEGORY	A	B	C	D
LNAV MDA	1800-1 450 (500-1)		NA	
CIRCLING	1820-1 467 (500-1)	1840-1 487 (500-1)	NA	

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	TDZE	Apt Elev
310°	6760	1343	1353

RNAV (GPS) RWY 31
HIBBING/ RANGE RGNL (HIB)

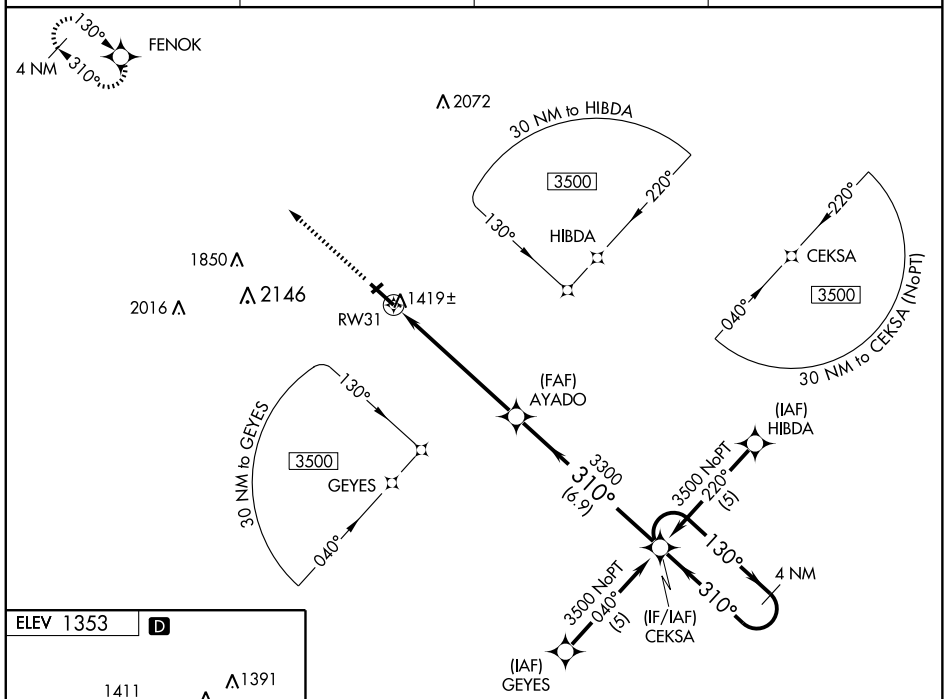
T NA

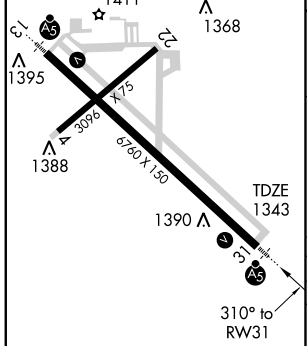
Circling not authorized at night to Rwy 4-22.
Baro-VNAV NA below -17°C (2°F).
GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.
For inoperative MALSR, increase LNAV Cat. A/B/C visibility to 1 mile.
Inoperative table does not apply to LNAV Cat. D.

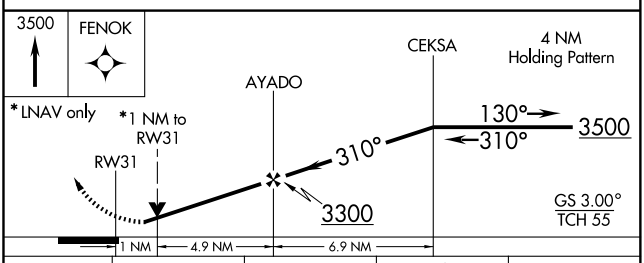
MALSR A5

MISSED APPROACH: Climb to 3500 direct FENOK WP and hold.

ASOS	DULUTH APP CON*	CLNC DEL	UNICOM
126.425	125.45 255.9	127.4	123.0 (CTAF) L







CATEGORY	A	B	C	D
GLS PA DA	NA			
LNAV/ VNAV DA	1700-¾ 357 (400-¾)			
LNAV MDA	1700-¾ 357 (400-¾)			1700-1 357 (400-1)
CIRCLING	1820-1¼ 467 (500-1¼)	1840-1¼ 487 (500-1¼)	1840-1½ 487 (500-1½)	1920-2 567 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME HIB	APP CRS	Rwy ldg	6760
110.8	131°	TDZE	1353
Chan 45		Apt Elev	1353

VOR RWY 13

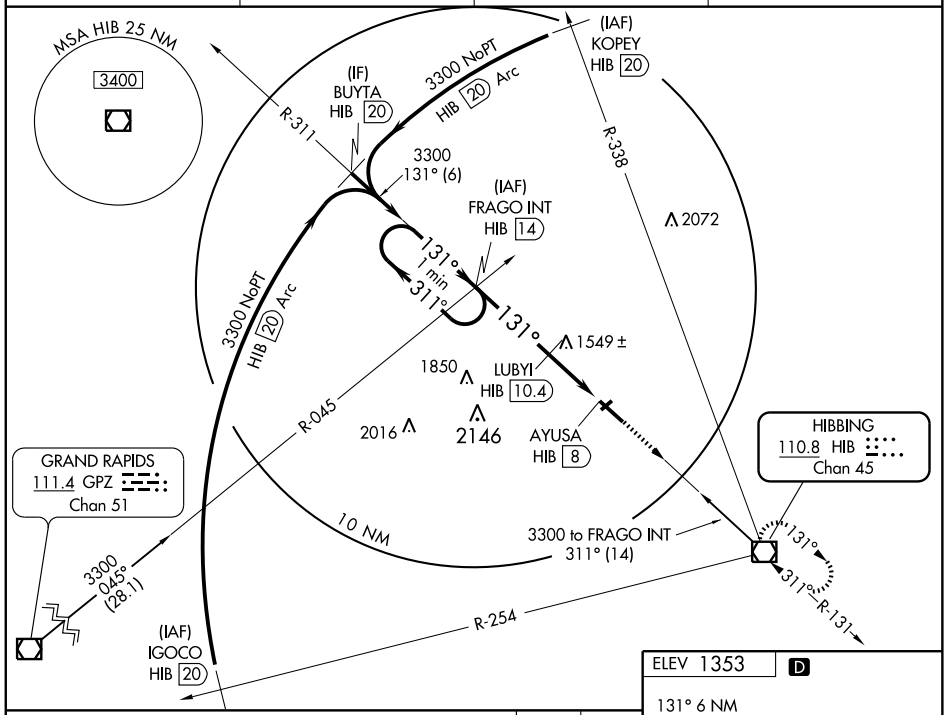
HIBBING/ RANGE RGNL (HIB)

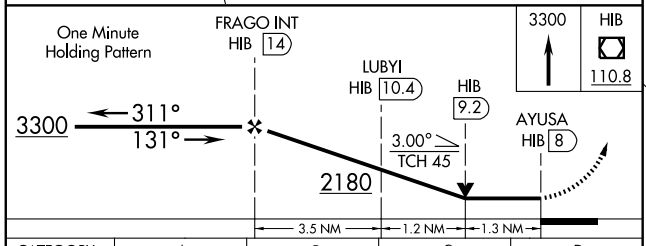
For inoperative MALSR increase S-13 Cat A to 1 mile.
LUBYI FIX MINIMUMS: Increase Cat A and B to 1 mile.

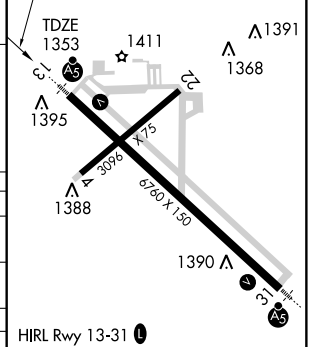
MALSR A5

MISSED APPROACH: Climb to 3300 direct HIB VOR/DME and hold.

ASOS	DULUTH APP CON★	CLNC DEL	UNICOM
126.425	125.45 255.9	127.4	123.0 (CTAF) L







CATEGORY	A	B	C	D
S-13	2180-¾ 827 (900-¾)		2180-2 827 (900-2)	2180-2¼ 827 (900-2¼)
CIRCLING	2180-1 827 (900-1)	2180-1¼ 827 (900-1¼)	2180-2½ 827 (900-2½)	2180-2¾ 827 (900-2¾)
LUBYI FIX MINIMUMS				
S-13	1800-¾ 447 (500-¾)			1800-1 447 (500-1)
CIRCLING	1820-1 467 (500-1)	1840-1 487 (500-1)	1840-1½ 487 (500-1½)	1920-2 567 (600-2)

FAF to MAP 6 NM					
Knots	60	90	120	150	180
Min:Sec	6:00	4:00	3:00	2:24	2:00

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME HIB	APP CRS	Rwy ldg	6760
110.8	311°	TDZE	1343
Chan 45		Apt Elev	1353

VOR RWY 31

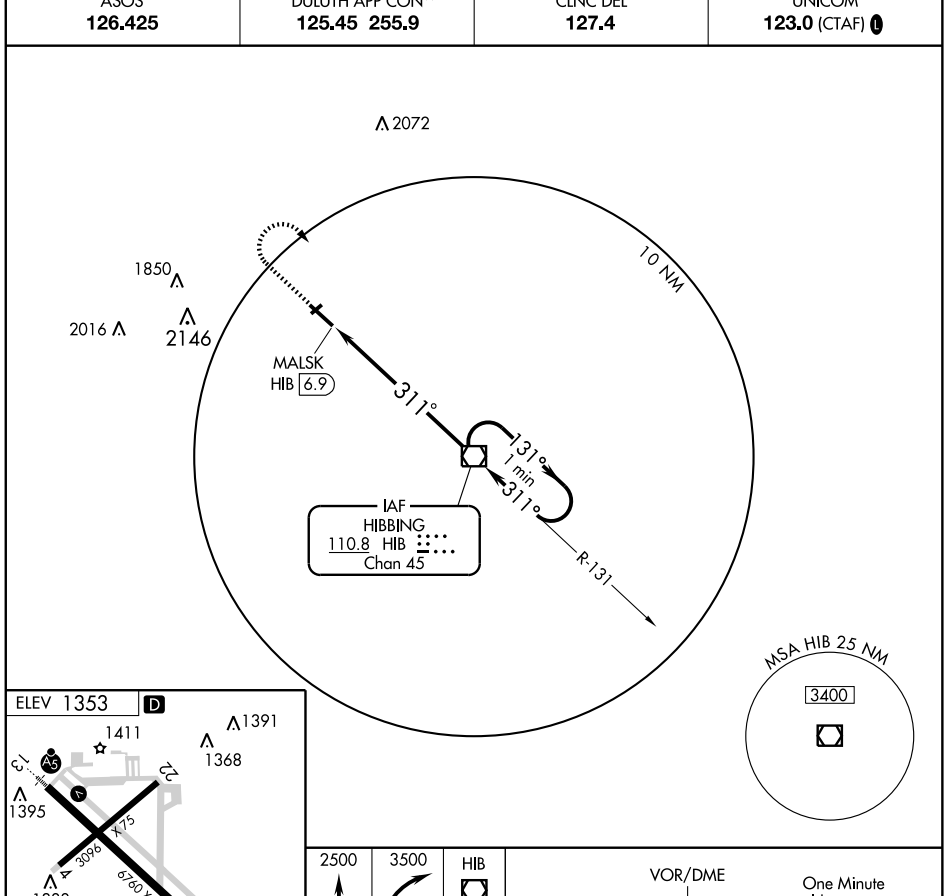
HIBBING/ RANGE RGNL (HIB)

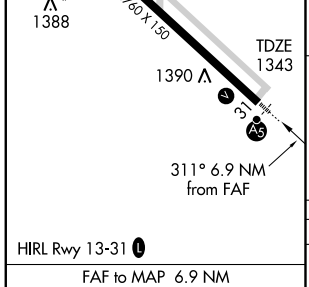
For inoperative MALSR, increase S-31 Cat. A and B visibility to 1 mile and Cat D visibility to 1¼ miles.

MALSR

MISSED APPROACH: Climb to 2500 then climbing right turn to 3500 direct HIB VOR/DME and hold.

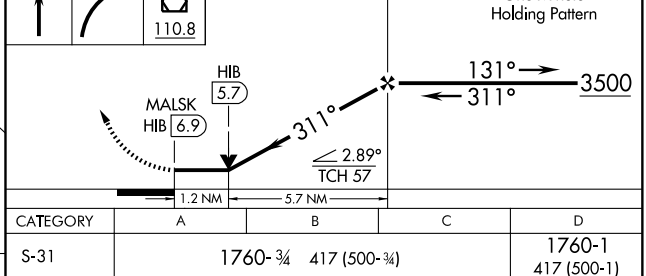
ASOS	DULUTH APP CON★	CLNC DEL	UNICOM
126.425	125.45 255.9	127.4	123.0 (CTAF)





HIRL Rwy 13-31

FAF to MAP 6.9 NM					
Knots	60	90	120	150	180
Min:Sec	6:54	4:36	3:27	2:46	2:18



CATEGORY	A	B	C	D
S-31	1760-¾ 417 (500-¾)			1760-1 417 (500-1)
CIRCLING	1820-1 467 (500-1)	1840-1 487 (500-1)	1840-1½ 487 (500-1½)	1920-2 567 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	2561
065°	TDZE	1021
	Apt Elev	1021

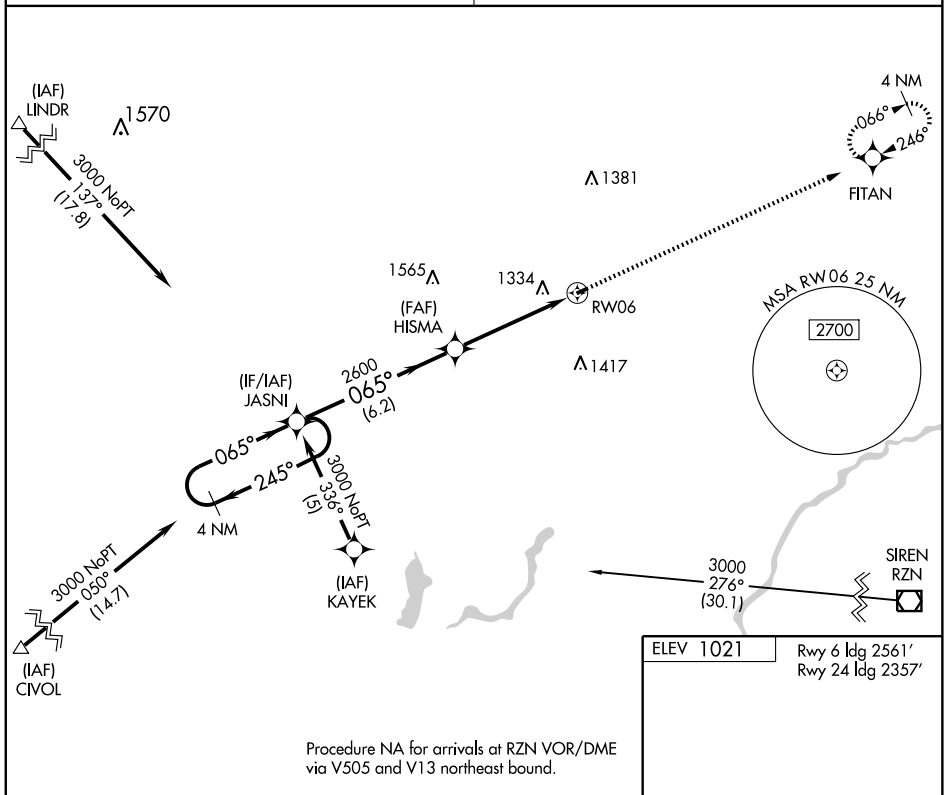
RNAV (GPS) RWY 6
HINCKLEY/ FIELD OF DREAMS (Ø4W)

DME/DME RNP-0.3 NA.
VDP NA when using Mora altimeter setting.
When local altimeter setting not received, use Mora altimeter setting and increase all MDAs 60 feet.

NA

MISSED APPROACH: Climb to 3000 direct FITAN and hold.

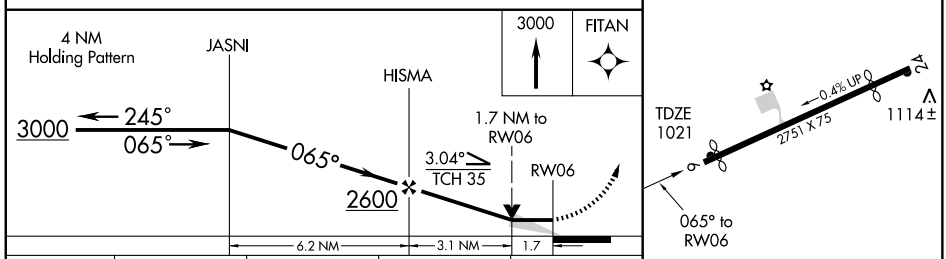
MINNEAPOLIS CENTER	CTAF
121.05 397.9	122.9 L



Procedure NA for arrivals at RZN VOR/DME via V505 and V13 northeast bound.

ELEV 1021

Rwy 6 ldg 2561′
Rwy 24 ldg 2357′



CATEGORY	A	B	C	D
LNAV MDA	1600-1 579 (600-1)		NA	
CIRCLING	1640-1 619 (700-1)		NA	

MIRL Rwy 6-24 L

NC-1. 08 APR 2010 to 06 MAY 2010

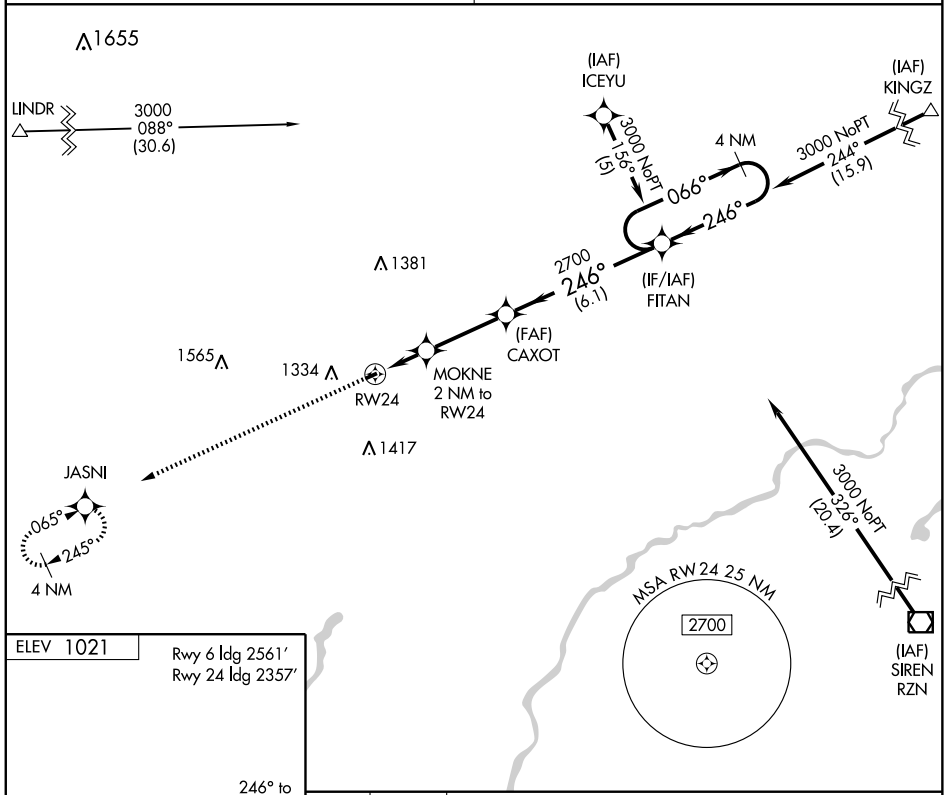
APP CRS	Rwy ldg	2357
246°	TDZE	1021
	Apt Elev	1021

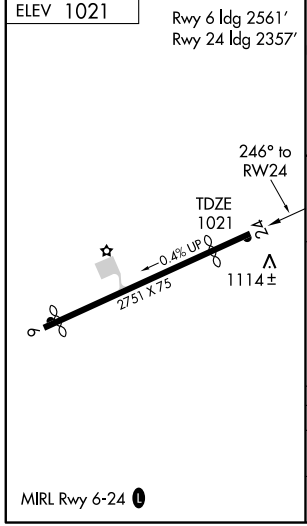
RNAV (GPS) RWY 24
HINCKLEY/ FIELD OF DREAMS (Ø4W)

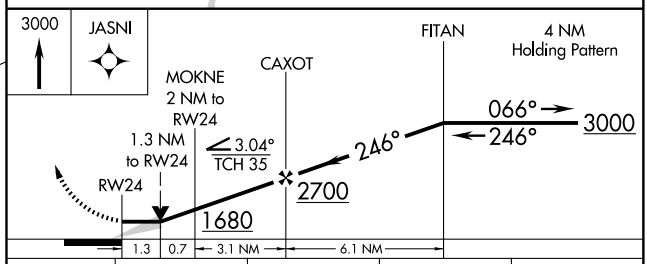
DME/DME RNP-0.3 NA.
When local altimeter setting not received, use Mora altimeter setting and increase all MDAs 60 feet.
VDP NA when using Mora altimeter setting.

MISSED APPROACH: Climb to 3000 direct JASNI and hold.

MINNEAPOLIS CENTER	CTAF
121.05 397.9	122.9







CATEGORY	A	B	C	D
LNAV MDA	1380-1 359 (400-1)		NA	
CIRCLING	1640-1 619 (700-1)		NA	

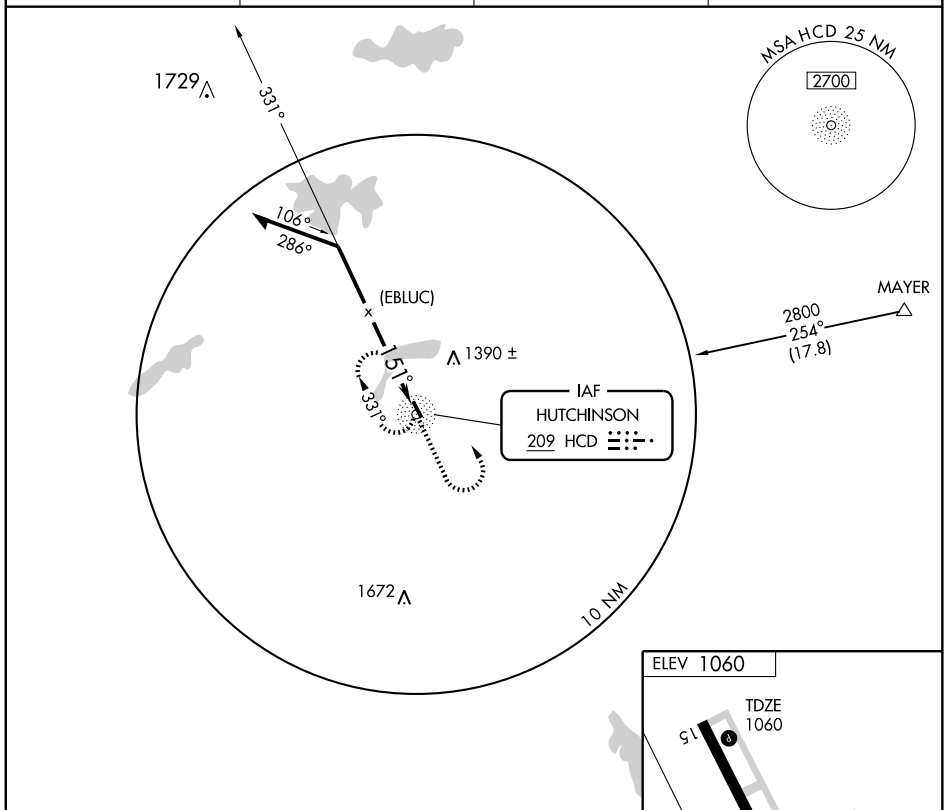
NDB HCD	APP CRS	Rwy ldg	4000
209	151°	TDZE	1060
		Apt Elev	1060

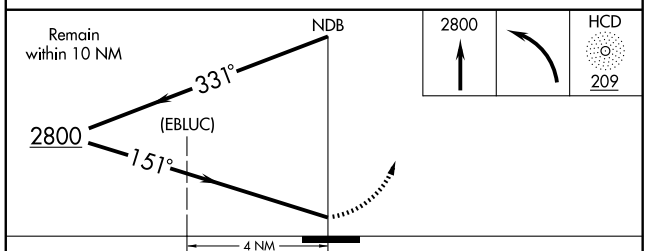
NDB or GPS RWY 15
HUTCHINSON MUNI-BUTLER FIELD (HCD)

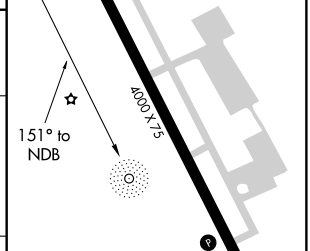
NA

MISSED APPROACH: Climb to 2800, then left turn direct HCD NDB and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
118.525	127.1 290.2	121.725	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-15	1620-1	560 (600-1)	1620-1½ 560 (600-1½)	NA
CIRCLING	1620-1	560 (600-1)	1620-1½ 560 (600-1½)	NA

MIRL Rwy 15-33 L
REIL Rwys 15 and 33 L

NC-1. 08 APR 2010 to 06 MAY 2010

HUTCHINSON, MINNESOTA

AL-6554 (FAA)

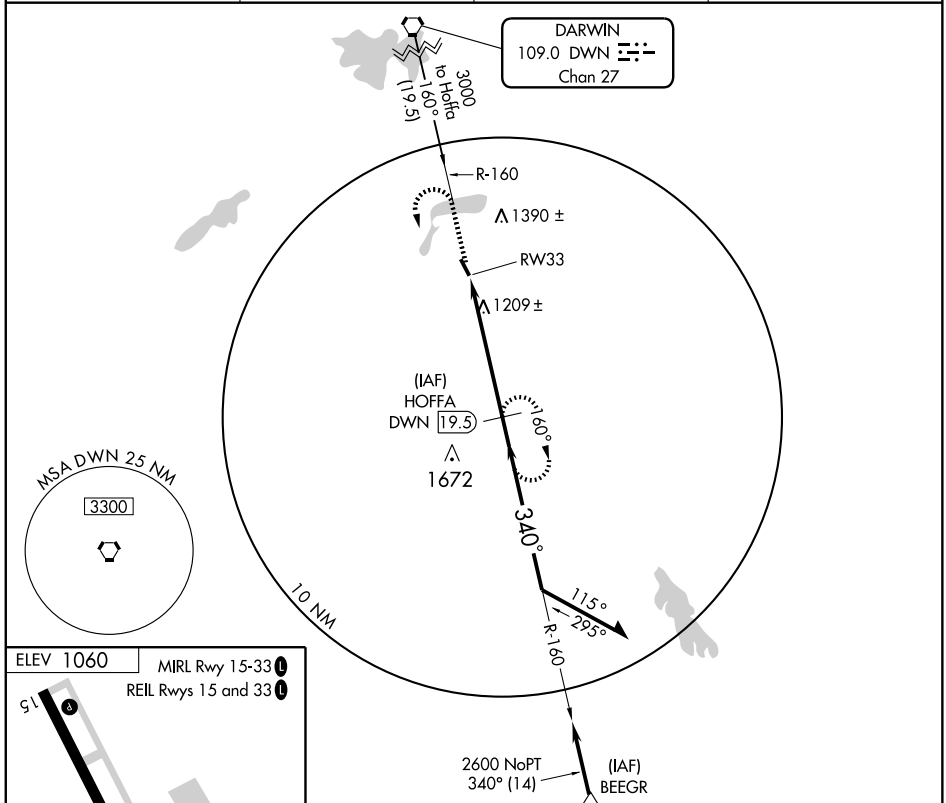
VORTAC DWN 109.0 Chan 27	APP CRS 340°	Rwy ldg 4000 TDZE 1060 Apt Elev 1060

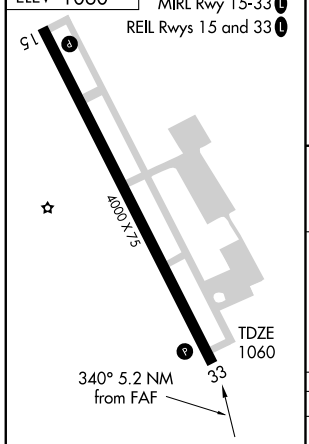
VOR/DME or GPS RWY 33

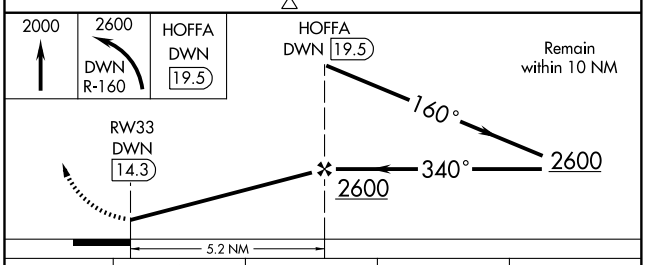
HUTCHINSON MUNI-BUTLER FIELD (HCD)

MISSED APPROACH: Climb to 2000 then climbing left turn to 2600 via DWN R-160 to HOFFA/19.5 DME and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
118.525	127.1 290.2	121.725	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-33	1460-1 400 (400-1)			NA
CIRCLING	1540-1 480 (500-1)		1540-1½ 480 (500-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-INL	APP CRS	Rwy ldg	7400
111.95	313°	TDZE	1166
		Apt Elev	1185

COPTER ILS or LOC RWY 31

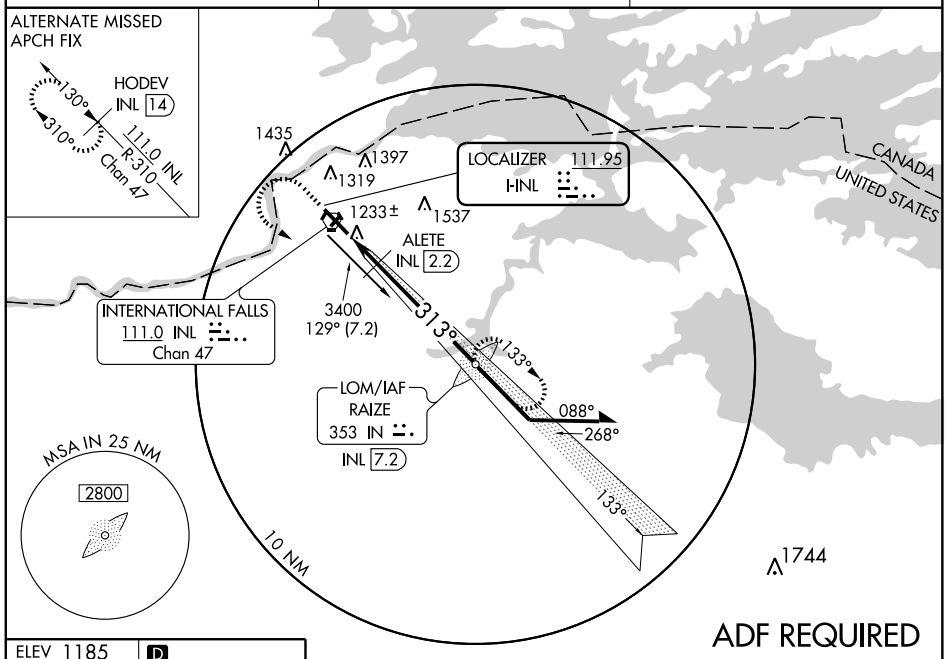
INTERNATIONAL FALLS/FALLS INTL (INL)

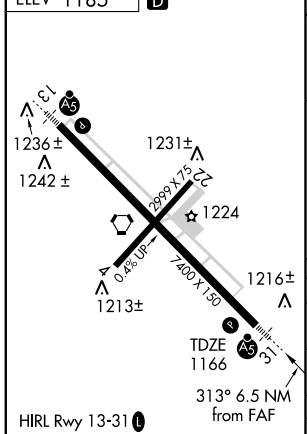
Inoperative table does not apply.
When local altimeter setting not received, use Baudette altimeter setting and increase DA 127 feet and ILS visibility ⅜ mile, increase all MDAs 140 feet.

MALSR A5

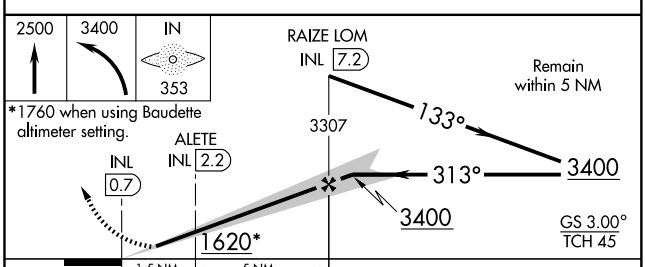
MISSED APPROACH: Climb to 2500 then climbing left turn to 3400 direct RAIZE LOM and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
120.0	120.9 377.1	122.8 (CTAF) L





FAF to MAP 6.5 NM					
Knots	45	60	75	90	105
Min:Sec	8:40	6:30	5:12	4:20	3:43



CATEGORY	COPTER	B	C	D
H-ILS 31	1366-⅜ 200 (200-⅜)	NA		
H-LOC 31	1620-½ 454 (500-½)	NA		
CIRCLING	NA			
ALETE FIX MINIMUMS				
H-LOC 31	1520-½ 354 (400-½)	NA		
CIRCLING	NA			

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-ABK	APP CRS	Rwy ldg	7400
109.1	133°	TDZE	1184
		Apt Elev	1185

ILS or LOC/DME RWY 13

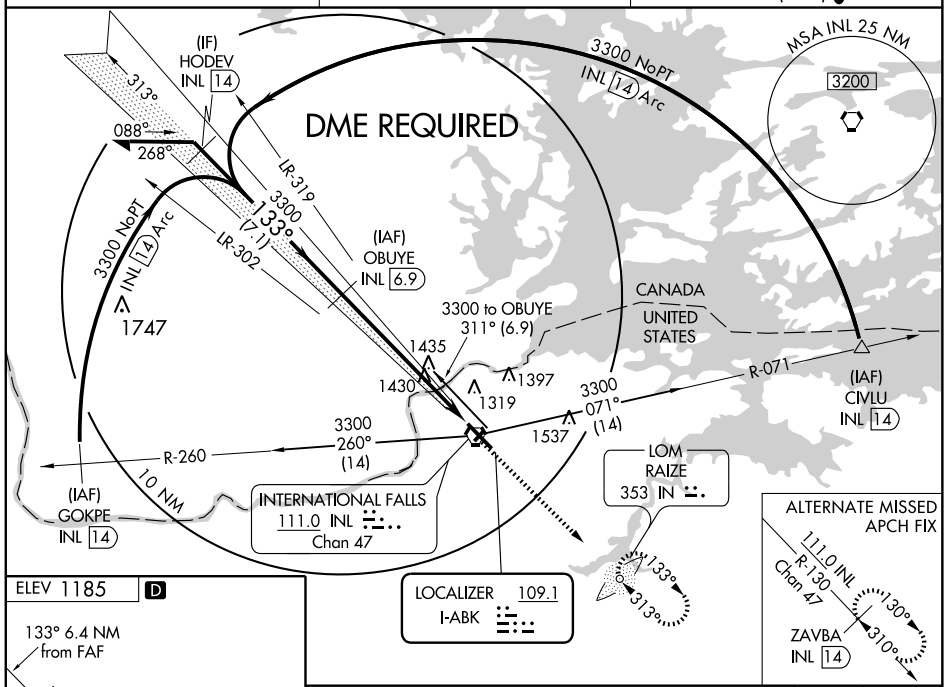
INTERNATIONAL FALLS/FALLS INTL (INL)

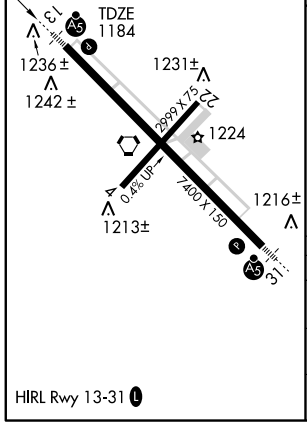
When local altimeter setting not received, use Baudette altimeter setting and increase DAs 127 feet and S-ILS 13 visibility ¼ mile all Cats, increase all MDAs 140 feet and S-LOC 13 Cat B visibility ¼ mile, Cat C and D ½ mile, increase Circling Cat B visibility ¼ mile, Cat C and D ½ mile. For inoperative MALSR when using Baudette altimeter setting, increase S-ILS 13 visibility ½ mile all Cats. ADF required. Circling to Rwy 4-22 NA at night. DME from INL VORTAC. Simultaneous reception of I-ABK and INL DME required. Caution opposing ILS continously on.

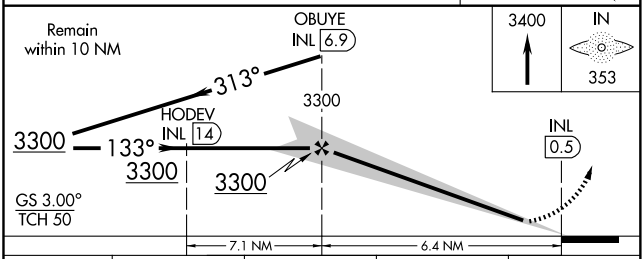
MALSR A5

MISSED APPROACH: Climb to 3400 direct IN LOM and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
120.0	120.9 377.1	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-ILS 13	1384-½ 200 (200-½)			
S-LOC 13	1820-½ 636 (700-½)		1820-1¼ 636 (700-1¼)	1820-1½ 636 (700-1½)
CIRCLING	1820-1 635 (700-1)		1820-1¾ 635 (700-1¾)	1820-2 635 (700-2)

HIRL Rwy 13-31 L

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-INL	APP CRS	Rwy ldg	7400
111.95	313°	TDZE	1166
		Apt Elev	1185

ILS or LOC RWY 31

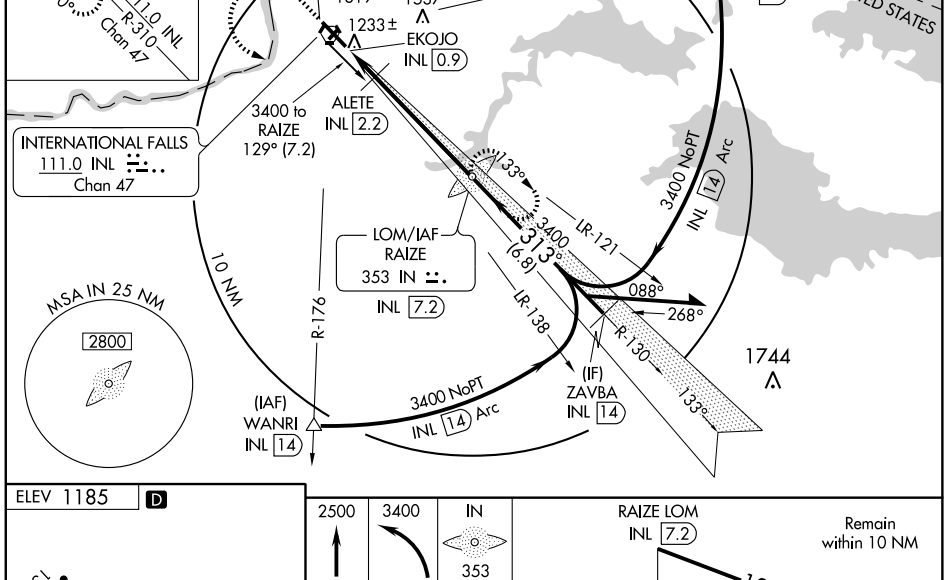
INTERNATIONAL FALLS/FALLS INTL (INL)

Circling to Rwy 4-22 NA at night. ADF required. Autopilot coupled approach NA below 2250 feet. When local altimeter setting not received, use Baudette altimeter setting and increase DA 127 feet and S-ILS visibility ¼ mile all Cats, increase all MDA 140 feet and increase all Cat C/D visibility ¼ mile. Caution opposing ILS continously on.

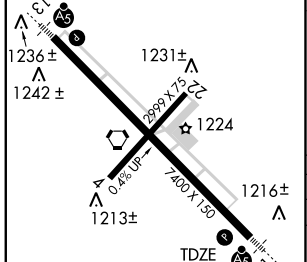
MALSR

MISSED APPROACH: Climb to 2500 then climbing left turn to 3400 direct RAIZE LOM/INL VORTAC 7.2 DME and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
120.0	120.9 377.1	122.8 (CTAF)

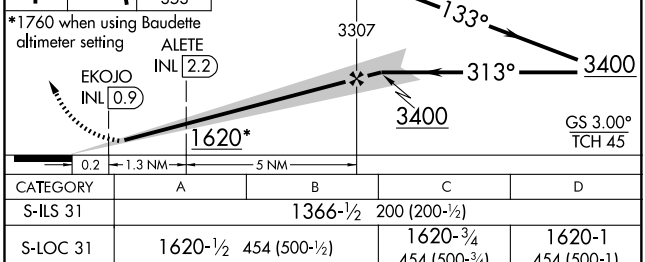


ELEV 1185 D



HIRL Rwy 13-31 L

FAF to MAP 6.3 NM					
Knots	60	90	120	150	180
Min:Sec	6:18	4:12	3:09	2:31	2:06



CATEGORY	A	B	C	D
S-ILS 31	1366-½ 200 (200-½)			
S-LOC 31	1620-½ 454 (500-½)		1620-¾ 454 (500-¾)	1620-1 454 (500-1)
CIRCLING	1620-1 435 (500-1)	1680-1 495 (500-1)	1680-1½ 495 (500-1½)	1780-2 595 (600-2)
ALETE FIX MINIMUMS				
S-LOC 31	1520-½ 354 (400-½)			1520-¾ 354 (400-¾)
CIRCLING	1620-1 435 (500-1)	1680-1 495 (500-1)	1680-1½ 495 (500-1½)	1780-2 595 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

LOM IN	APP CRS	Rwy ldg	7400
353	313°	TDZE	1166
		Apt Elev	1185

NDB RWY 31

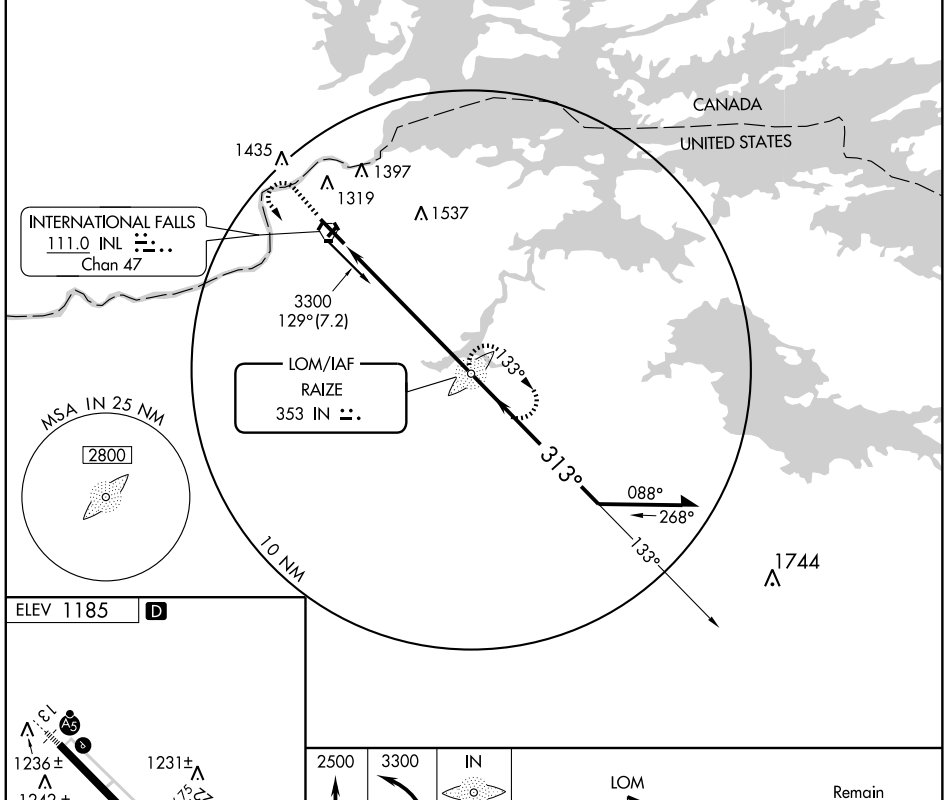
INTERNATIONAL FALLS/FALLS INTL (INL)

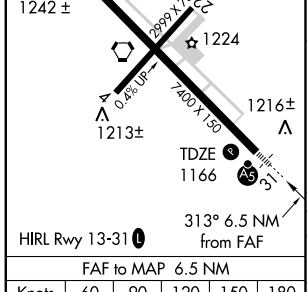
T NA Circling to Rwy 4-22 NA at night. When local altimeter setting not received, use Baudette altimeter setting and increase all MDAs 140 feet, and S-31 Cats C/D visibility ½ mile, Circling Cat C ½ mile, Cat D ¼ mile.

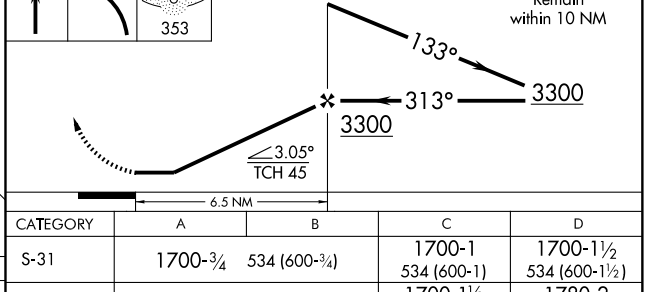
MALSR A5

MISSED APPROACH: Climb to 2500 then climbing left turn to 3300 direct IN LOM and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
120.0	120.9 377.1	122.8 (CTAF) L







FAF to MAP 6.5 NM					
Knots	60	90	120	150	180
Min:Sec	6:30	4:20	3:15	2:36	2:10

CATEGORY	A	B	C	D
S-31	1700-¾	534 (600-¾)	1700-1 534 (600-1)	1700-1½ 534 (600-1½)
CIRCLING	1700-1	515 (600-1)	1700-1½ 515 (600-1½)	1780-2 595 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 53706 W13A	APP CRS 133°	Rwy ldg 7400 TDZE 1184 Apt Elev 1185

RNAV (GPS) RWY 13

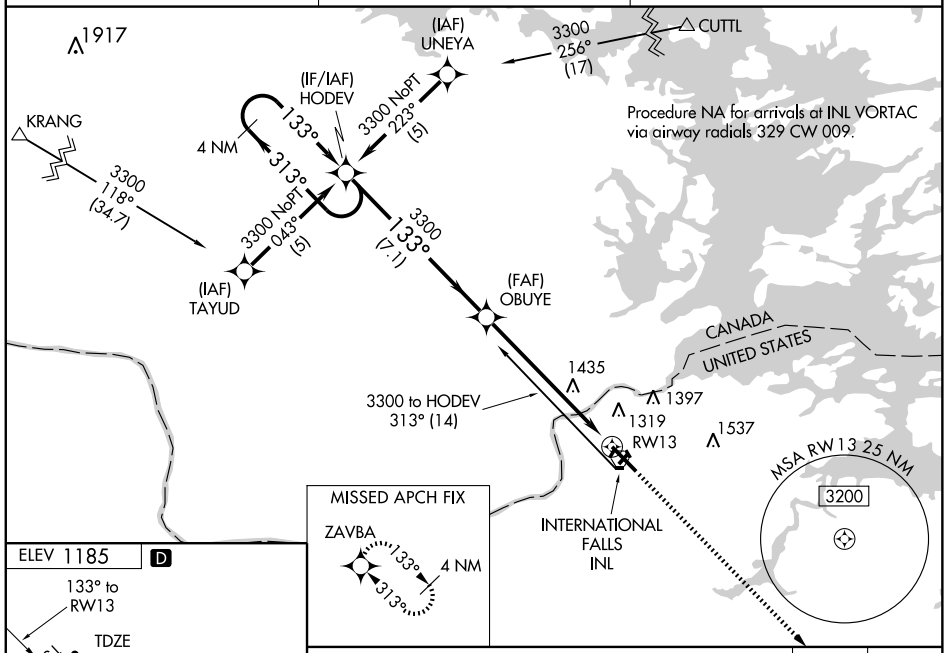
INTERNATIONAL FALLS/FALLS INTL (INL)

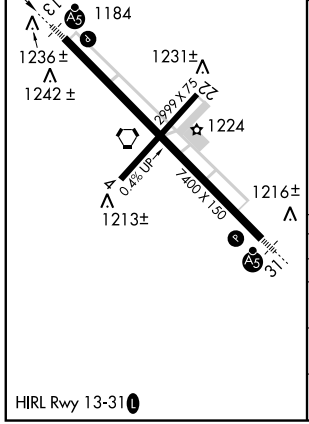
When local altimeter setting not received, use Baudette altimeter setting and increase all DAs 127 feet, increase LPV visibility ¼ mile all Cats, and LNAV/VNAV visibility ¾ mile all Cats, increase all MDAs 140 feet, increase LNAV Cat C and D visibility ½ mile, Circling Cat C visibility ½ mile and Cat D visibility ¼ mile. For inoperative MALSR when using Baudette altimeter setting, increase LPV visibility ½ mile all Cats, inoperative table does not apply to LNAV/VNAV. VDP NA when using Baudette altimeter setting. Baro-VNAV NA when using Baudette altimeter setting. Circling to Rwy 4-22 NA at night. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 47°C (116°F). DME/DME RNP- 0.3 NA.

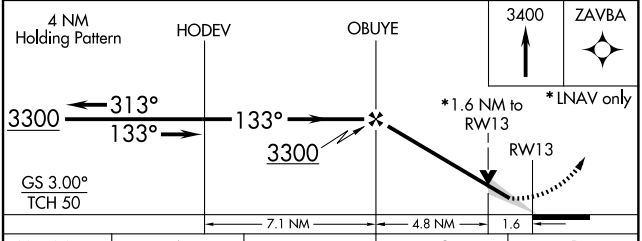
MALSR

MISSED APPROACH: Climb to 3400 direct ZAVBA and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
120.0	120.9 377.1	122.8 (CTAF)







CATEGORY	A	B	C	D
LPV DA	1434-½ 250 (300-½)			
LNAV/VNAV DA	1669-1¼ 485 (500-1¼)			
LNAV MDA	1760-½ 576 (600-½)		1760-1 576 (600-1)	1760-1¼ 576 (600-1¼)
CIRCLING	1760-1 575 (600-1)		1760-1½ 575 (600-1½)	1780-2 595 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 78406 W31A	APP CRS 313°	Rwy ldg 7400 TDZE 1166 Apt Elev 1185

RNAV (GPS) RWY 31

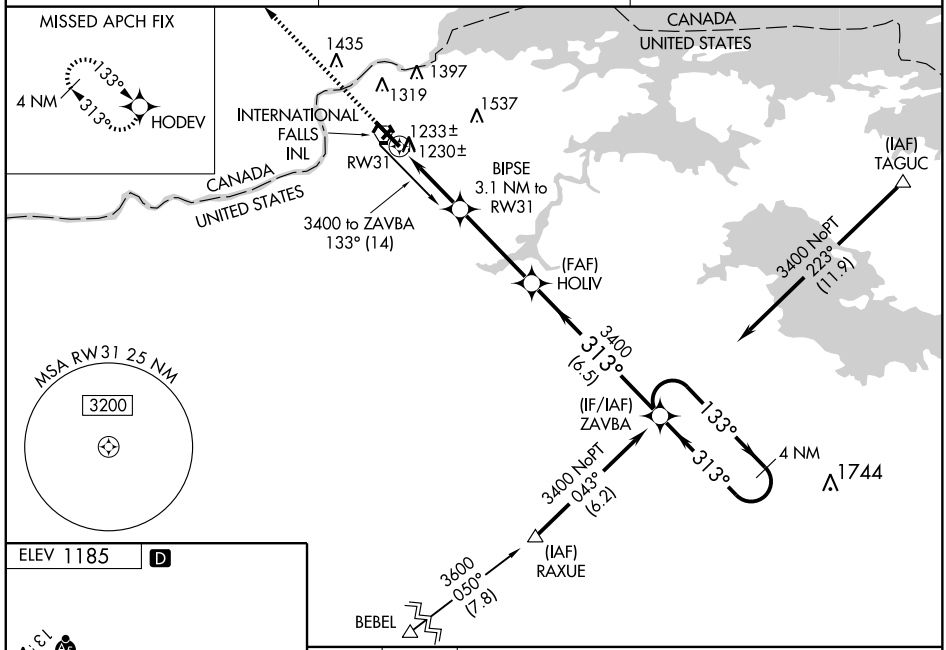
INTERNATIONAL FALLS/FALLS INTL (INL)

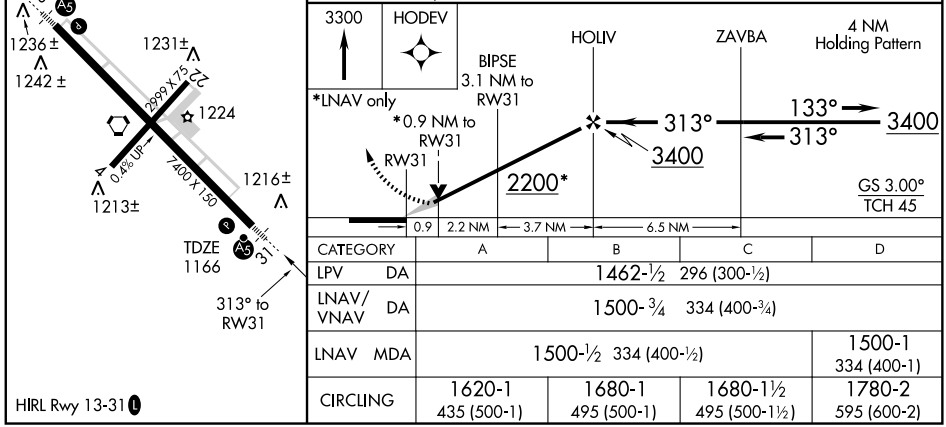
When local altimeter setting not received, use Baudette altimeter setting and increase all DAs 127 feet, and LPV and LNAV/VNAV visibility ½ mile all Cats, increase all MDAs 140 feet and LNAV Cat C visibility ¼ mile and Circling Cat C and D visibility ¼ mile. For inoperative MALSR when using Baudette altimeter setting, increase LPV visibility ½ mile all Cats. For inoperative MALSR, increase LPV visibility ½ mile all Cats, inoperative table does not apply to LNAV Cat D. VDP NA when using Baudette altimeter setting. Baro-VNAV NA when using Baudette altimeter setting. Circling to Rwy 4-22 NA at night. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 47°C (116°F). DME/DME RNP-0.3 NA.

MALSR

MISSED APPROACH: Climb to 3300 direct HODEV and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
120.0	120.9 377.1	122.8 (CTAF) L





CATEGORY	A	B	C	D
LPV DA	1462-½ 296 (300-½)			
LNAV/VNAV DA	1500-¾ 334 (400-¾)			
LNAV MDA	1500-½ 334 (400-½)			1500-1 334 (400-1)
CIRCLING	1620-1 435 (500-1)	1680-1 495 (500-1)	1680-1½ 495 (500-1½)	1780-2 595 (600-2)

HIRL Rwy 13-31 L

NC-1. 08 APR 2010 to 06 MAY 2010

VORTAC INL	APP CRS	Rwy ldg	7400
111.0	305°	TDZE	1166
Chan 47		Apt Elev	1185

VOR/DME RWY 31

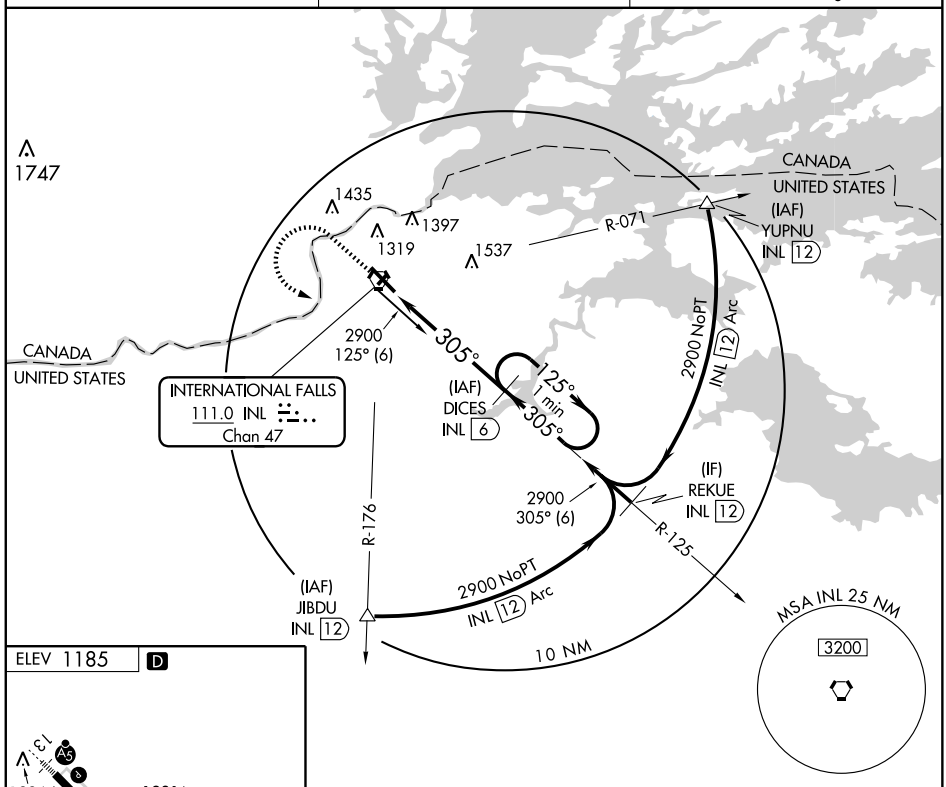
INTERNATIONAL FALLS/FALLS INTL (INL)

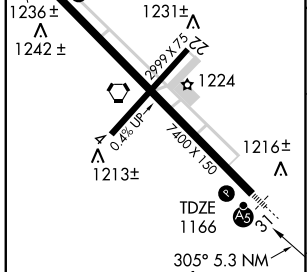
Circling to Rwy 4-22 NA at night.
When local altimeter setting not received, use Baudette altimeter setting and increase all MDAs 140 feet, increase S-31 Cat C and D visibility ¼ mile, and Circling Cat C and D visibility ¼ mile.

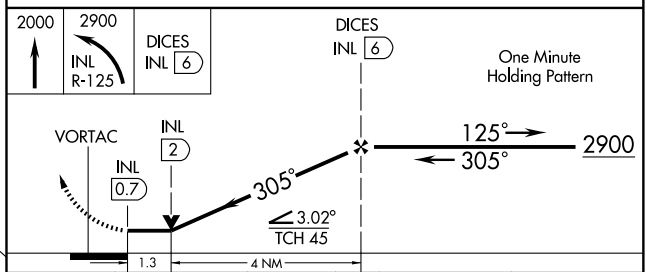
MALSR

MISSED APPROACH: Climb to 2000 then climbing left turn to 2900 via INL VORTAC R-125 to DICES/6 DME and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
120.0	120.9 377.1	122.8 (CTAF)







CATEGORY	A	B	C	D
S-31	1620-½ 454 (500-½)		1620-¾ 454 (500-¾)	1620-1 454 (500-1)
CIRCLING	1620-1 435 (500-1)	1680-1 495 (500-1)	1680-1½ 495 (500-1½)	1780-2 595 (600-2)

HIRL Rwy 13-31

NC-1. 08 APR 2010 to 06 MAY 2010

VORTAC INL	APP CRS	Rwy ldg	7400
111.0	134°	TDZE	1184
Chan 47		Apt Elev	1185

VOR RWY 13

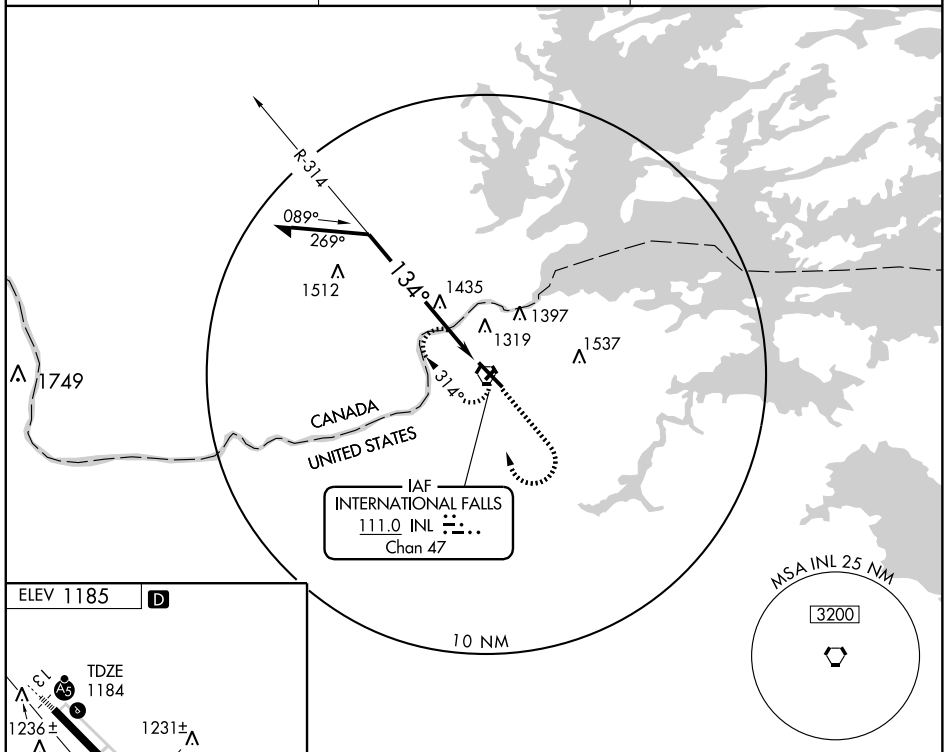
INTERNATIONAL FALLS/FALLS INTL (INL)

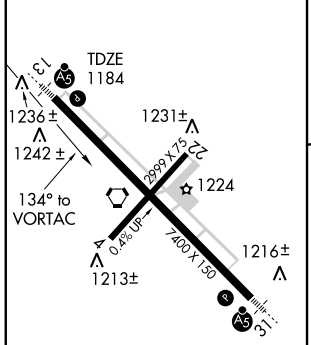
Circling to Rwy 4-22 NA at night.
VDP NA when using Baudette altimeter setting.
When local altimeter setting not received, use Baudette altimeter setting and increase all MDAs 140 feet, and S-13 Cats A/B visibility ¼ mile, Cats C/D visibility ½ mile. Increase Circling Cat B visibility ¼ mile, Cat C and D ½ mile. For inoperative MALSR when using Baudette altimeter setting, increase S-13 Cat A visibility ¼ mile.

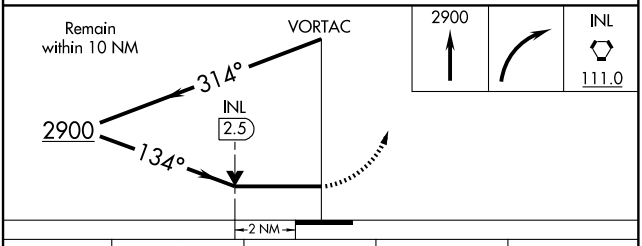
MALSR

MISSED APPROACH: Climb to 2900 then right turn direct INL VORTAC and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
120.0	120.9 377.1	122.8 (CTAF)







CATEGORY	A	B	C	D
S-13	1880-½ 696 (700-½)		1880-1½ 696 (700-1½)	1880-1¾ 696 (700-1¾)
CIRCLING	1880-1 695 (700-1)		1880-2 695 (700-2)	1880-2¼ 695 (700-2¼)

HIRL Rwy 13-31

NC-1. 08 APR 2010 to 06 MAY 2010

VORTAC INL 111.0 Chan 47	APP CRS 303°	Rwy ldg 7400 TDZE 1174 Apt Elev 1185

VOR RWY 31

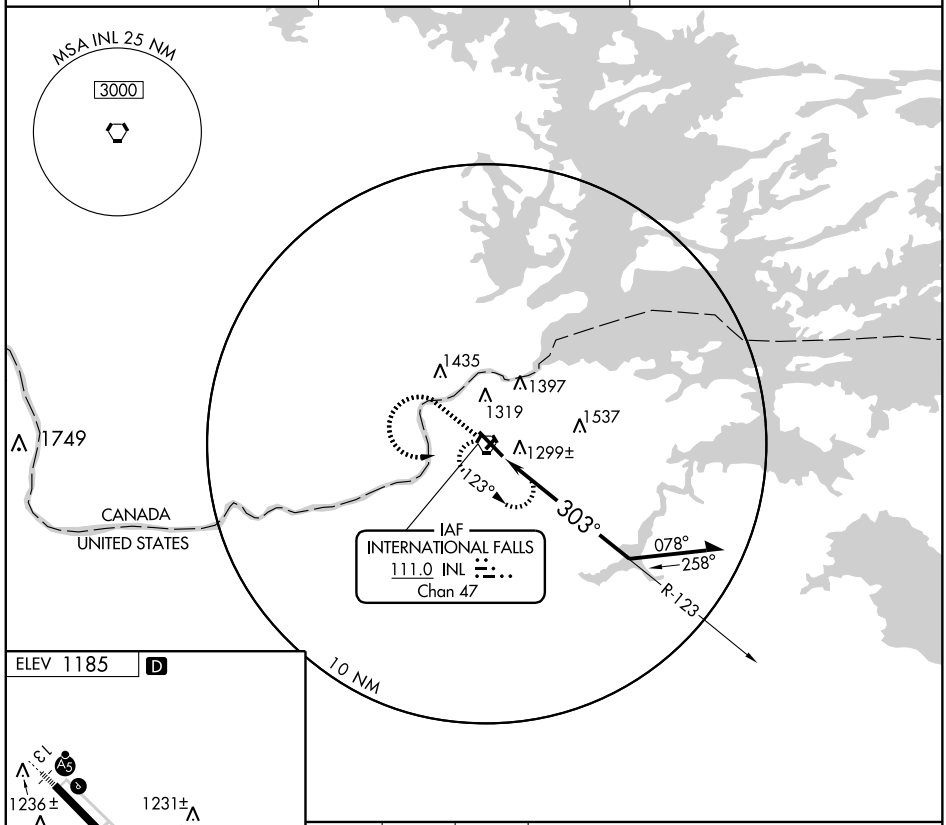
INTERNATIONAL FALLS/FALLS INTL (INL)

For inoperative MALSR, increase S-31 Cat. D visibility to 1¼. Circling to Rwy 4-22 NA at night.

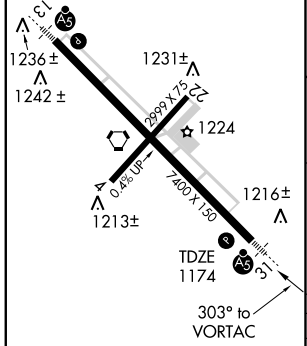
MALSR A5

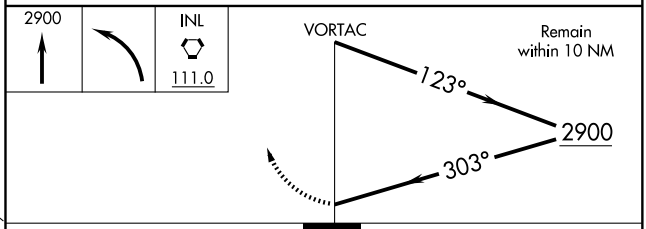
MISSED APPROACH: Climb to 2900 then left turn direct INL VORTAC and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
120.0	120.9 377.1	122.8 (CTAF) L



ELEV 1185 D





CATEGORY	A	B	C	D
S-31	1600-½ 426 (500-½)		1600-¾ 426 (500-¾)	1600-1 426 (500-1)
CIRCLING	1620-1 435 (500-1)	1680-1 495 (500-1)	1680-1½ 495 (500-1½)	1840-2 655 (700-2)

HIRL Rwy 13-31 L

NC-1. 08 APR 2010 to 06 MAY 2010

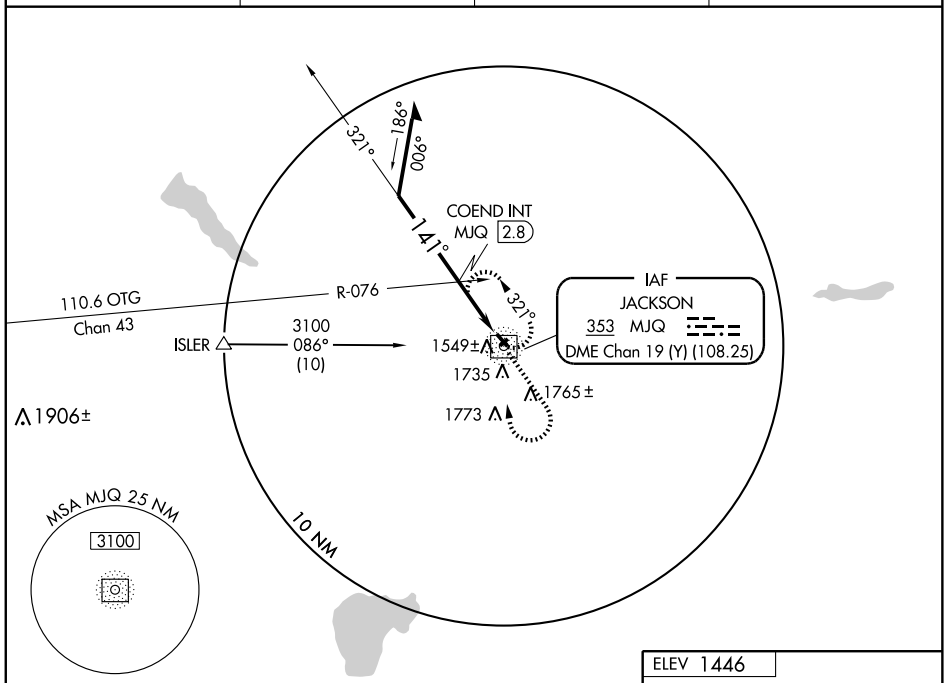
NDB/DME MJQ 353 DME Chan 19 (Y) (108.25)	APP CRS 141°	Rwy ldg 3591 TDZE 1445 Apt Elev 1446

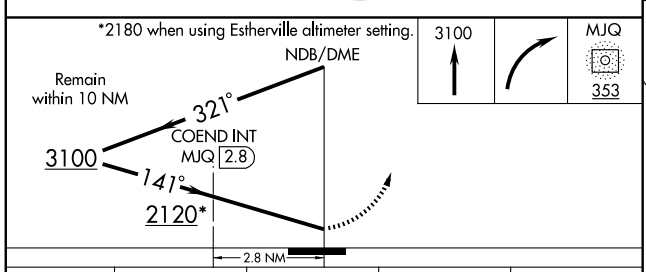
NDB RWY 13
JACKSON MUNI (MJQ)

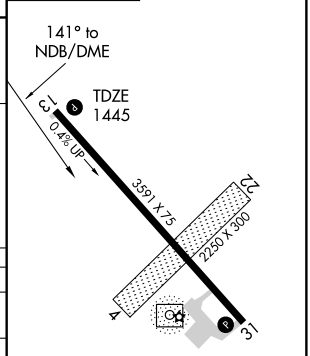
When local altimeter setting not received, use Estherville altimeter setting and increase all MDAs 60 feet and COEND FIX minimums S-13 visibility Cat C ¼ mile and circling Cat C ¼ mile.

MISSED APPROACH: Climb to 3100 then right turn direct MJQ NDB/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
353	127.75 257.7	121.725	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-13	2120-1 675 (700-1)		2120-2 675 (700-2)	NA
CIRCLING	2120-1 674 (700-1)		2120-2 674 (700-2)	NA
COEND FIX MINIMUMS				
S-13	1940-1 495 (500-1)		1940-1¼ 495 (500-1¼)	NA
CIRCLING	2040-1 594 (600-1)		2040-1½ 594 (600-1½)	NA

REIL Rwys 13 and 31 L
MIRL Rwy 13-31 L

NC-1. 08 APR 2010 to 06 MAY 2010

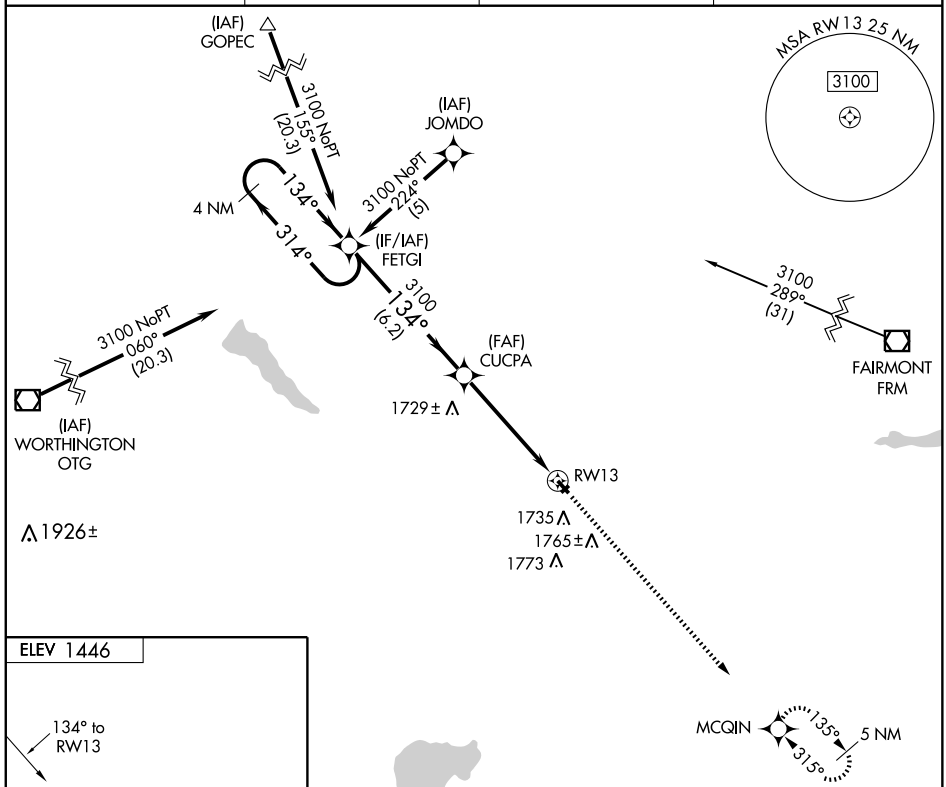
APP CRS 134°	Rwy ldg 3591
	TDZE 1445
	Apt Elev 1446

RNAV (GPS) RWY 13
JACKSON MUNI (MJQ)

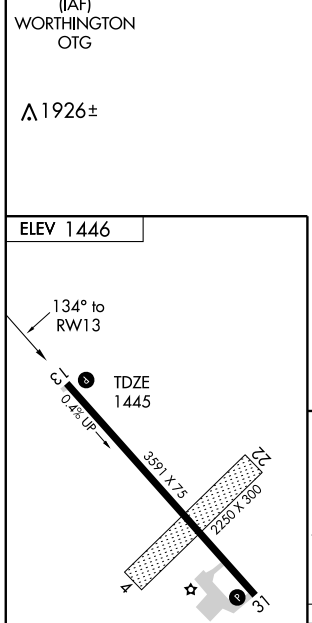
DME/DME RNP -0.3 NA.
Visibility reduction by helicopters NA.
When local altimeter setting not received, use Estherville altimeter setting and increase all MDAs 60 feet and visibility Cat C ¼ mile.

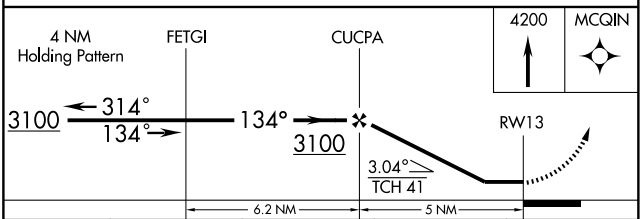
MISSED APPROACH: Climb to 4200 direct MCQIN and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
353	127.75 257.7	121.725	122.8 (CTAF) L



Procedure NA for arrivals at OTG VOR/DME via V250 southwest bound.





CATEGORY	A	B	C	D
LNAV MDA	1920-1 475 (500-1)		1920-1¼ 475 (500-1¼)	NA
CIRCLING	2040-1 594 (600-1)		2040-1½ 594 (600-1½)	NA

REIL Rwys 13 and 31 L
MIRL Rwy 13-31 L

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	3591
314°	TDZE	1445
	Apt Elev	1446

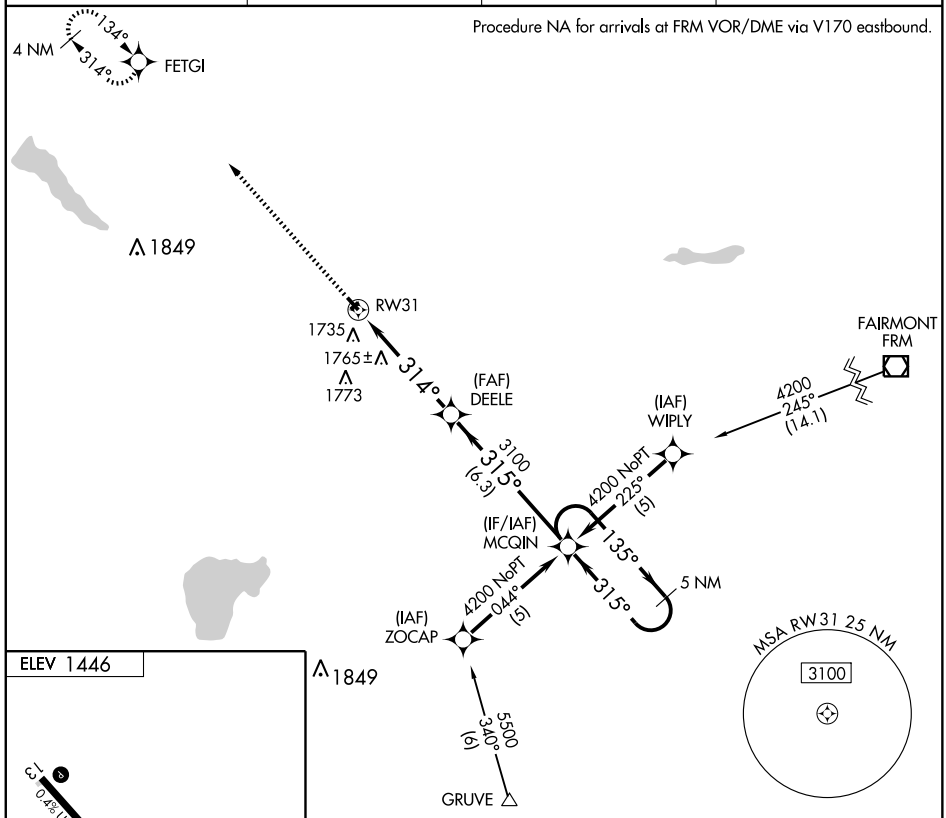
RNAV (GPS) RWY 31
JACKSON MUNI (MJQ)

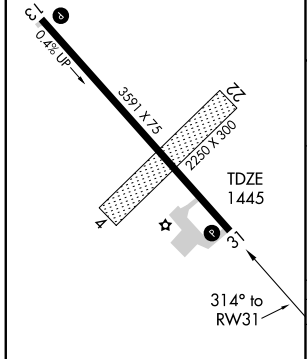
DME/DME RNP -0.3 NA.
When local altimeter setting not received, use Estherville altimeter setting and increase all MDAs 60 feet and visibility Cat C ¼ mile.

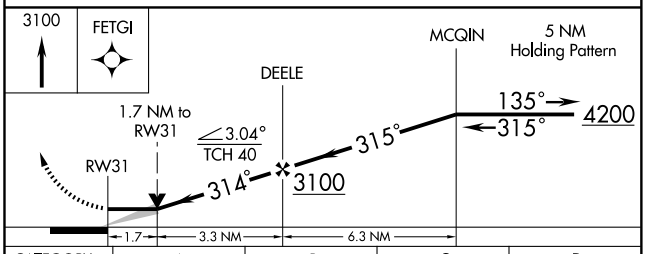
MISSED APPROACH: Climb to 3100 direct FETGI and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
353	127.75 257.7	121.725	122.8 (CTAF) L

Procedure NA for arrivals at FRM VOR/DME via V170 eastbound.







CATEGORY	A	B	C	D
LNAV MDA	2020-1 575 (600-1)		2020-1½ 575 (600-1½)	NA
CIRCLING	2040-1 594 (600-1)		2040-1½ 594 (600-1½)	NA

REIL Rwys 13 and 31 L
MIRL Rwy 13-31 L

NC-1. 08 APR 2010 to 06 MAY 2010

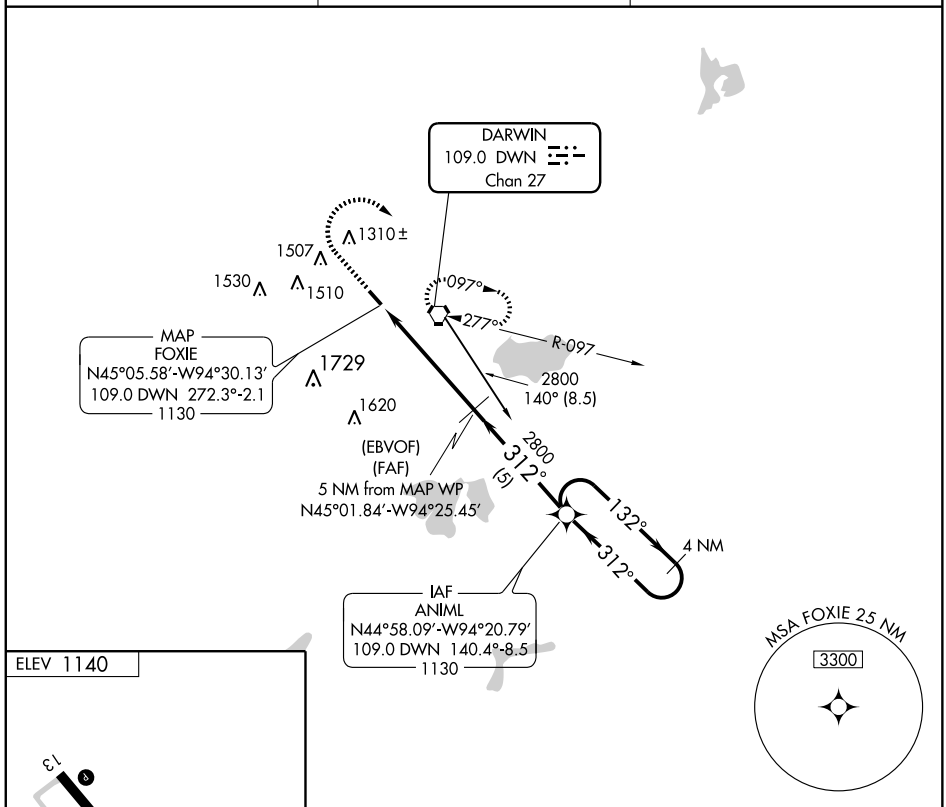
VORTAC DWN 109.0 Chan 27	APP CRS 312°	Rwy ldg 4002 TDZE 1140 Apt Elev 1140

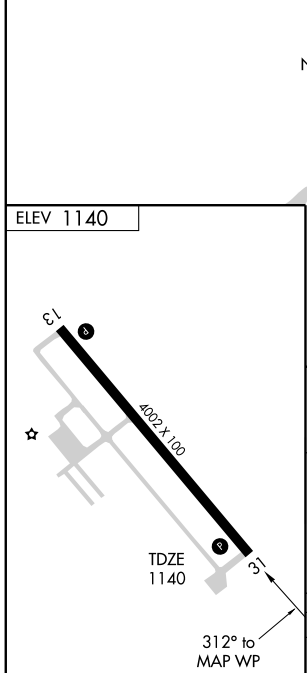
VOR/DME RNAV or GPS RWY 31

LITCHFIELD MUNI (LJF)

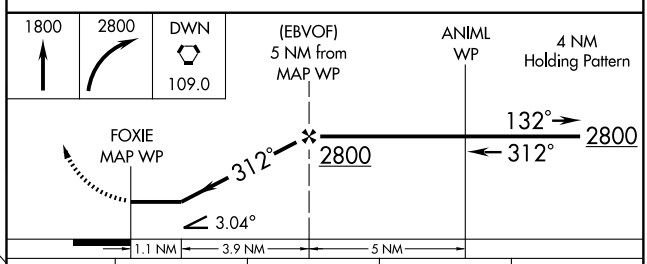
MISSED APPROACH: Climb to 1800 then climbing right turn to 2800 direct DWN VORTAC and hold.

AWOS-3	MINNEAPOLIS CENTER	CTAF
109.0	125.5 323.1	122.9 L





REIL Rwys 13 and 31 L
MIRL Rwy 13-31 L



CATEGORY	A	B	C	D
S-31	1540-1 400 (400-1)			1540-1¼ 400 (400-1¼)
CIRCLING	1600-1 460 (500-1)		1600-1½ 460 (500-1½)	1800-2 660 (700-2)

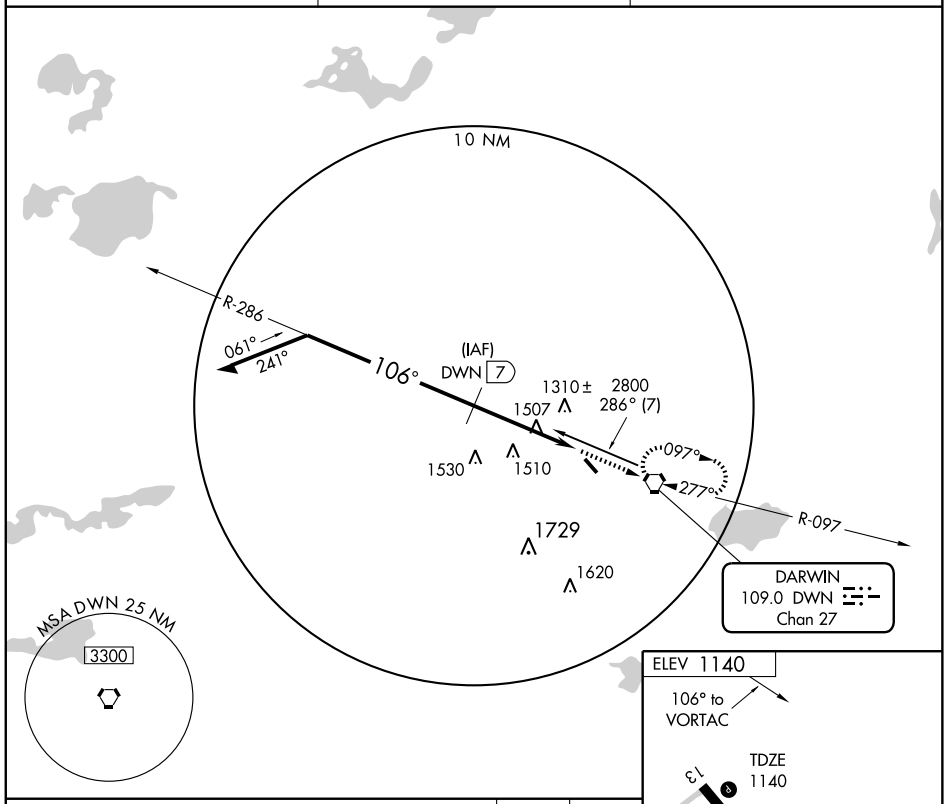
NC-1. 08 APR 2010 to 06 MAY 2010

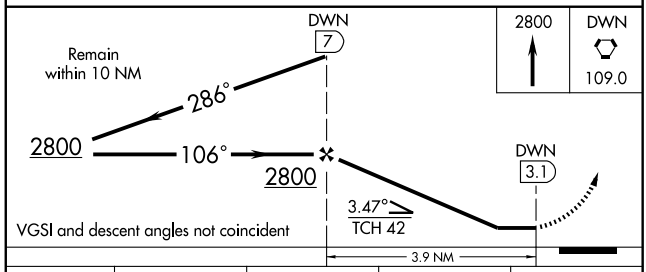
VORTAC DWN	APP CRS	Rwy ldg	4002
109.0	106°	TDZE	1140
Chan 27		Apt Elev	1140

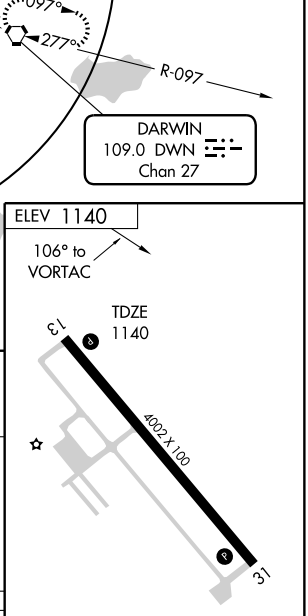
VOR/DME RWY 13
LITCHFIELD MUNI (LJF)

MISSED APPROACH: Climb to 2800 direct DWN VORTAC and hold.

AWOS-3	MINNEAPOLIS CENTER	CTAF
109.0	125.5 323.1	122.9 L







CATEGORY	A	B	C	D
S-13	1760-1	620 (700-1)	1760-1¾ 620 (700-1¾)	1760-2 620 (700-2)
CIRCLING	1760-1	620 (700-1)	1760-1¾ 620 (700-1¾)	1800-2 660 (700-2)

REIL Rwys 13 and 31 L
MIRL Rwy 13-31 L

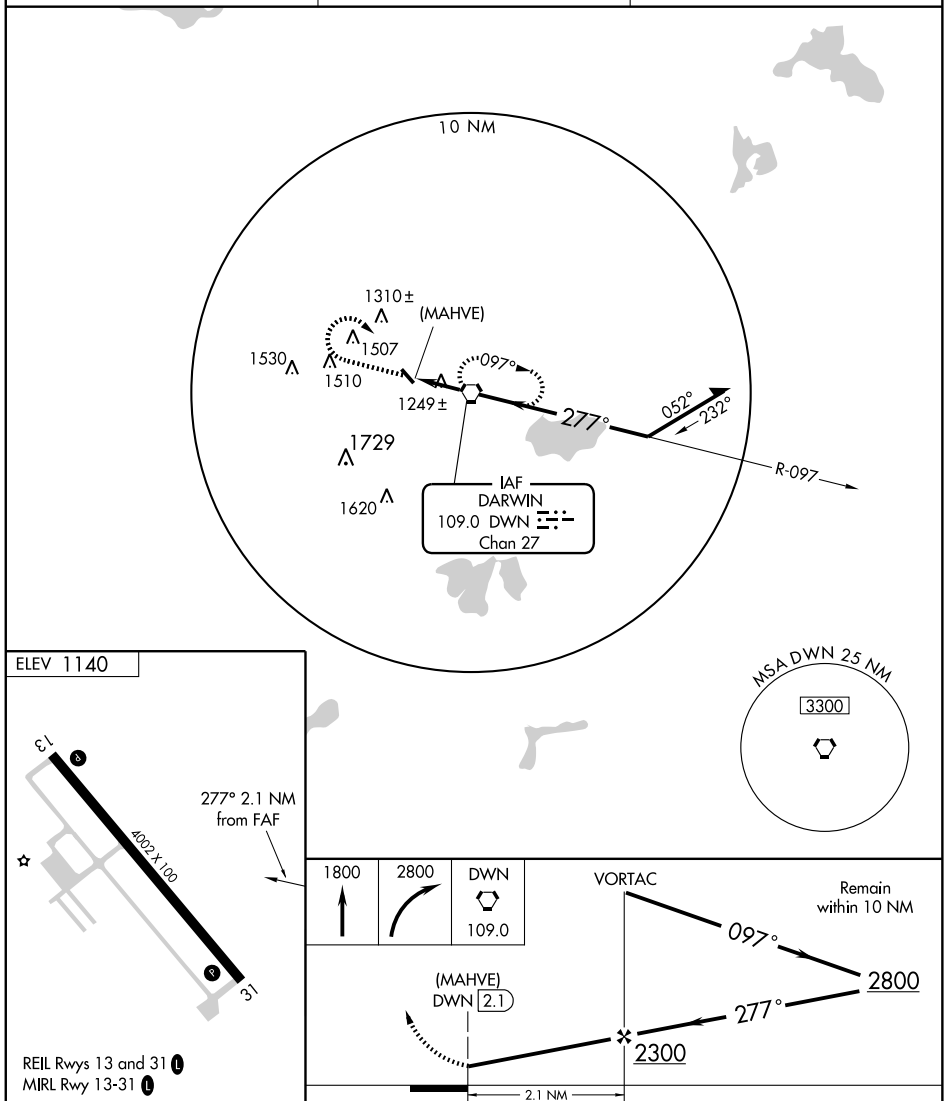
NC-1. 08 APR 2010 to 06 MAY 2010

VORTAC DWN 109.0 Chan 27	APP CRS 277°	Rwy ldg N/A TDZE N/A Apt Elev 1140

VOR or GPS-A
LITCHFIELD MUNI (LJF)

MISSED APPROACH: Climb to 1800 then climbing right turn to 2800 direct DWN VORTAC and hold.

AWOS-3	MINNEAPOLIS CENTER	CTAF
109.0	125.5 323.1	122.9 L



FAF to MAP 2.1 NM					
Knots	60	90	120	150	180
Min:Sec	2:06	1:24	1:03	0:50	0:42

CATEGORY	A	B	C	D
CIRCLING	1600-1 460 (500-1)		1600-1½ 460 (500-1½)	1800-2 660 (700-2)

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS 308°	Rwy ldg	4011
	TDZE	1122
	Apt Elev	1122

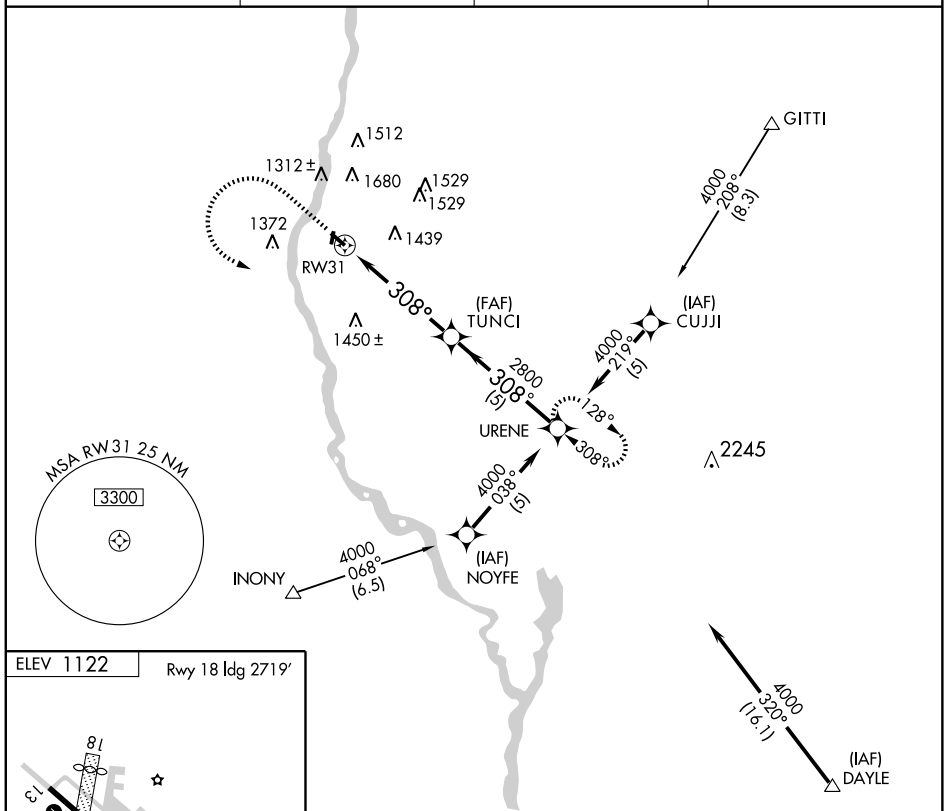
GPS RWY 31

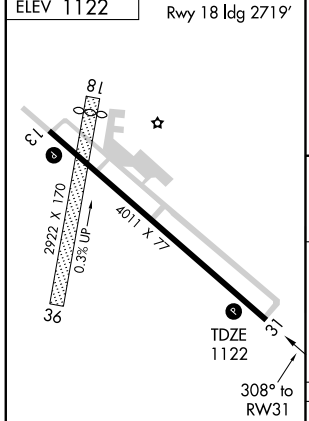
LITTLE FALLS/MORRISON COUNTY, CHARLES A. LINDBERGH FIELD (LXL)

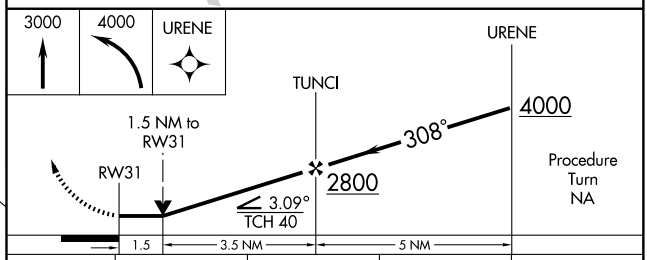
T
NA

MISSED APPROACH: Climb to 3000 then climbing left turn to 4000 direct URENE WP and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
359	118.05 239.0	121.725	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-31	1660-1 538 (600-1)		1660-1½ 538 (600-1½)	1660-1¾ 538 (600-1¾)
CIRCLING	1700-1 578 (600-1)	1720-1 598 (600-1)	1720-1½ 598 (600-1½)	1980-2¾ 858 (900-2¾)

REIL Rwys 13 and 31 L
MIRL Rwy 13-31 L

NC-1. 08 APR 2010 to 06 MAY 2010

NDB LXL	APP CRS	Rwy ldg	4011
359	312°	TDZE	1122
		Apt Elev	1122

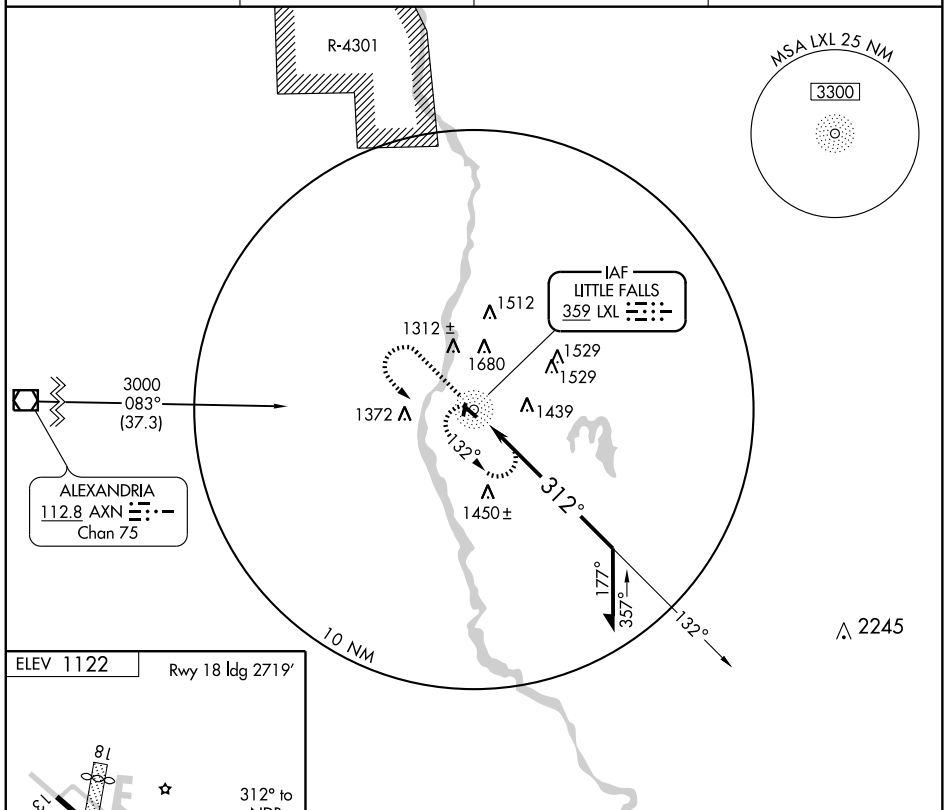
NDB RWY 31

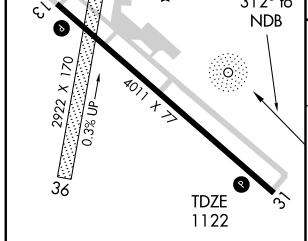
LITTLE FALLS/MORRISON COUNTY, CHARLES A. LINDBERGH FIELD (LXL)

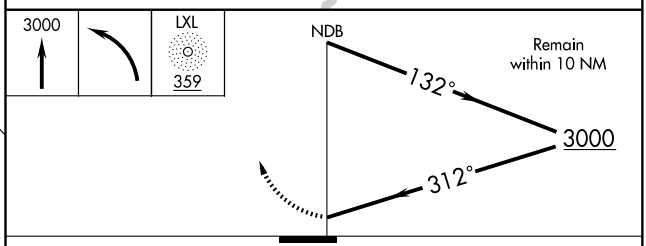
NA

MISSED APPROACH: Climb to 3000 then left turn direct LXL NDB and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
359	118.05 239.0	121.725	122.8 (CTAF)







CATEGORY	A	B	C	D
S-31	1840-1	718 (800-1)	1840-2 718 (800-2)	1840-2¼ 718 (800-2¼)
CIRCLING	1840-1	718 (800-1)	1840-2 718 (800-2)	1980-2¾ 858 (900-2¾)

REIL Rwys 13 and 31
MIRL Rwy 13-31

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	3000
344°	TDZE	1332
	Apt Elev	1333

RNAV (GPS) RWY 34

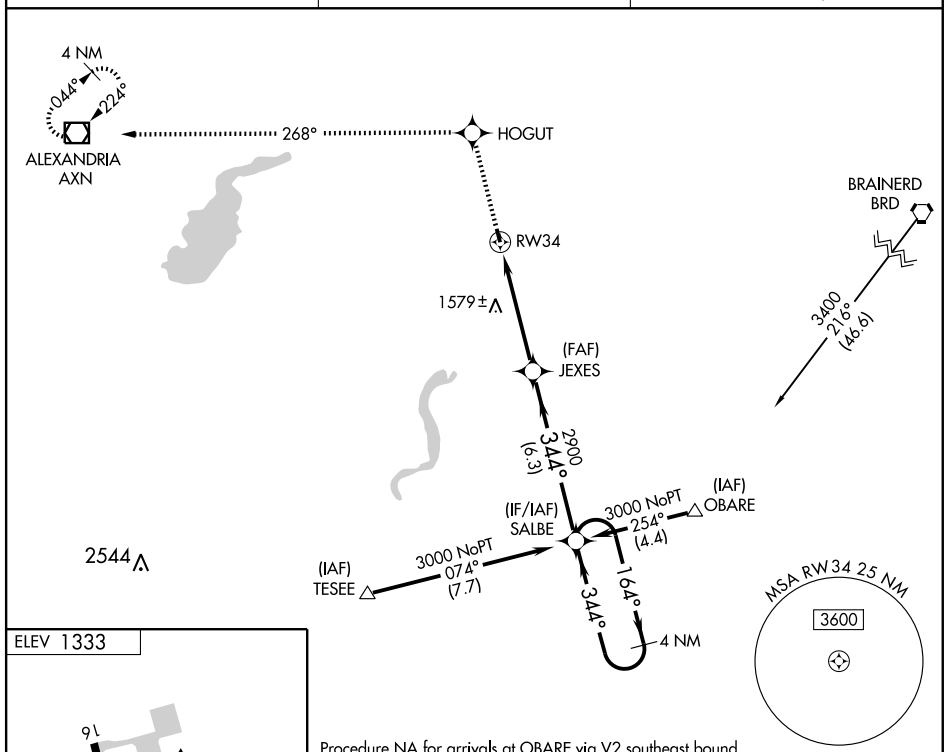
LONG PRAIRIE/ TODD FIELD (14Y)

NA

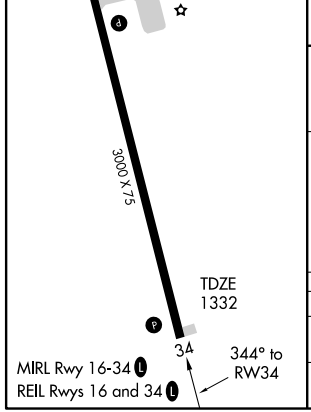
Procedure NA at night.
DME/DME RNP- 0.3 NA.
Visibility reduction by helicopters NA.
When local altimeter setting not received, use Alexandria altimeter setting.

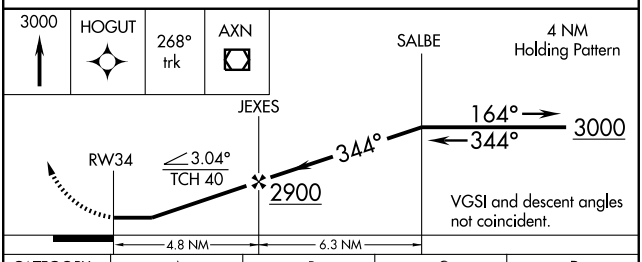
MISSED APPROACH: Climb to 3000 direct HOGUT and via 268° track to ALEXANDRIA VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	CTAF
118.650	126.1 269.2	122.9 L



Procedure NA for arrivals at OBARE via V2 southeast bound.
Procedure NA for arrival on BRD VORTAC airway radials 156 CW 171.





CATEGORY	A	B	C	D
LNAV MDA	1900-1 568 (600-1)		1900-1½ 568 (600-1½)	NA
CIRCLING	1900-1 567 (600-1)		1900-1½ 567 (600-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

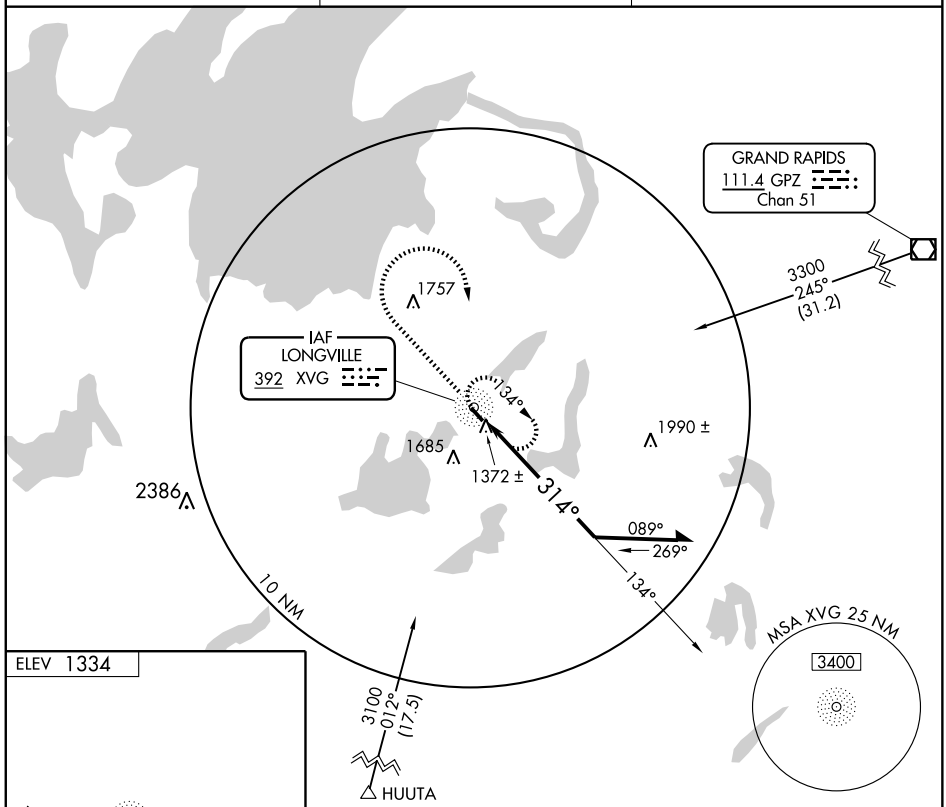
NDB XVG 392	APP CRS 314°	Rwy ldg 3560 TDZE 1332 Apt Elev 1334

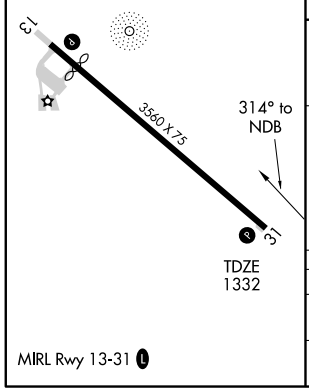
NDB RWY 31
LONGVILLE MUNI (XVG)

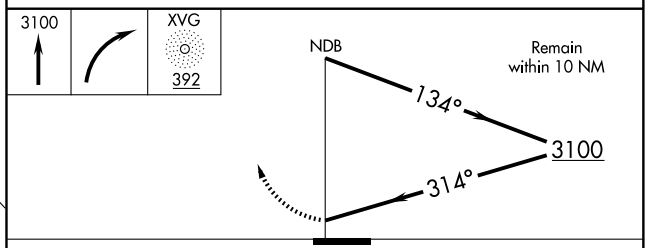
NA

MISSED APPROACH: Climb to 3100 then right turn direct XVG NDB and hold.

AWOS-3	MINNEAPOLIS CENTER	CTAF
392	118.05 239.0	122.9 L







CATEGORY	A	B	C	D
S-31	1920-1 588 (600-1)		NA	
CIRCLING	1920-1 586 (600-1)		NA	

NC-1. 08 APR 2010 to 06 MAY 2010

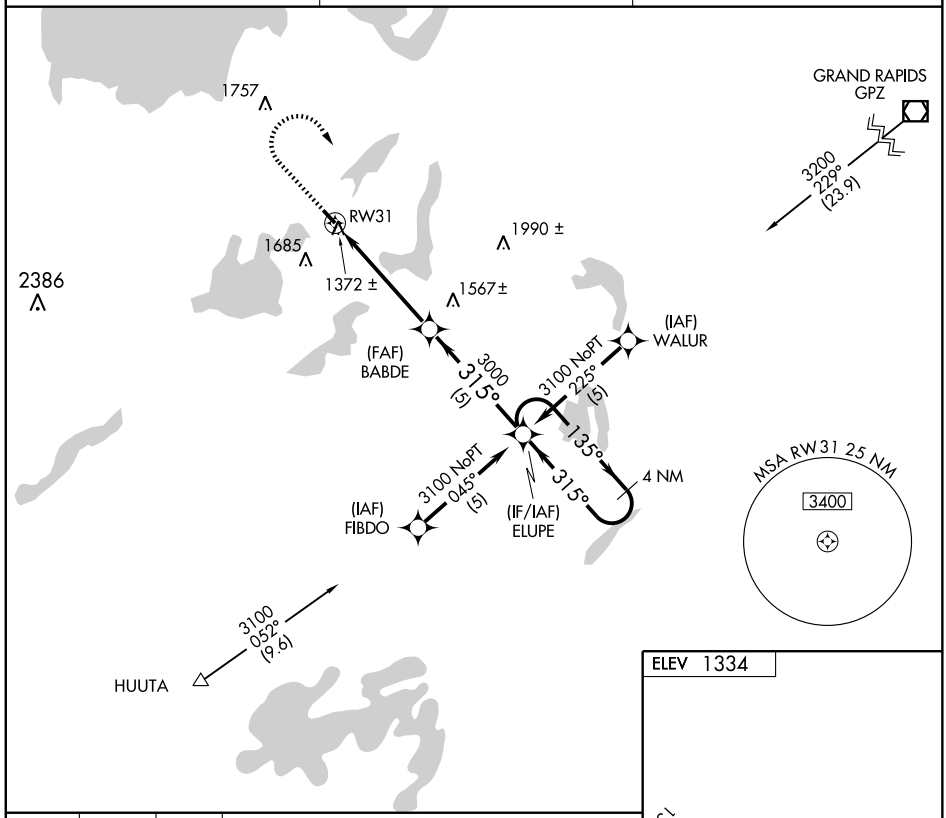
APP CRS	Rwy ldg	3560
315°	TDZE	1332
	Apt Elev	1334

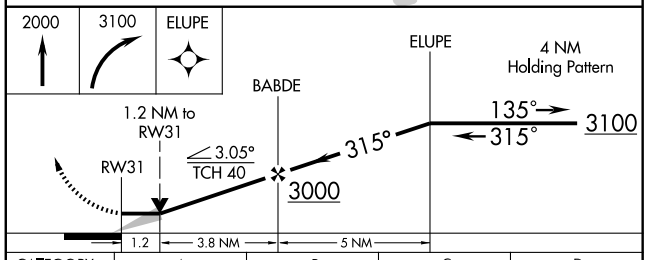
RNAV (GPS) RWY 31
LONGVILLE MUNI (XVG)

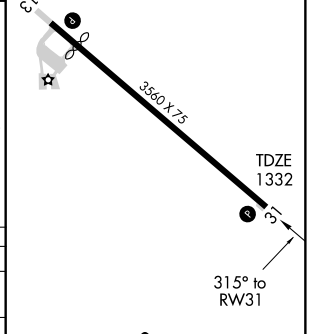
NA GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA

MISSED APPROACH: Climb to 2000 then climbing right turn to 3100 direct ELUPE WP and hold.

AWOS-3	MINNEAPOLIS CENTER	CTAF
392	118.05 239.0	122.9 L







CATEGORY	A	B	C	D
LNAV MDA	1760-1 428 (500-1)		NA	
CIRCLING	1860-1 526 (600-1)		NA	

NDB DXX 341	APP CRS 306°	Rwy ldg 3301 TDZE 1082 Apt Elev 1082

NDB or GPS RWY 31

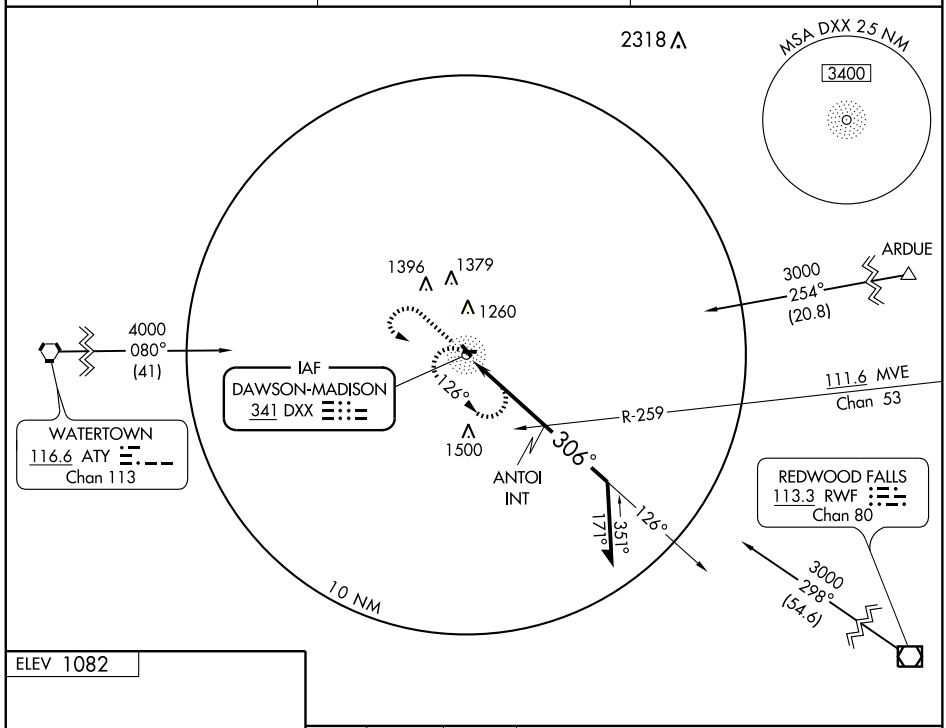
MADISON/LAC QUI PARLE COUNTY (DXX)

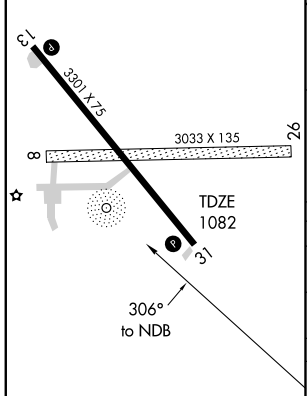
NA

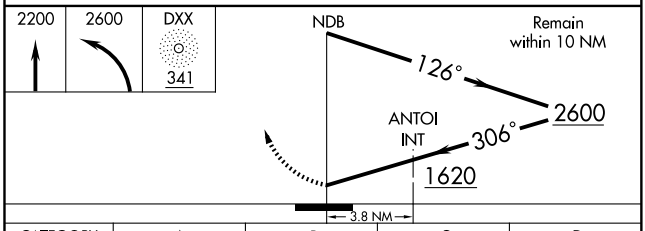
Activate MIRL Rwy 13-31-CTAF.

MISSED APPROACH: Climb to 2200 then climbing left turn to 2600 direct DXX NDB and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
341	128.5 306.2	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-31	1620-1 538 (600-1)		1620-1½ 538 (600-1½)	NA
CIRCLING	1620-1 538 (600-1)		1620-1½ 538 (600-1½)	NA
ANTOI FIX MINIMA				
S-31	1500-1 418 (500-1)		1500-1¼ 418 (500-1¼)	NA
CIRCLING	1560-1 478 (500-1)		1560-1½ 478 (500-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-MKT	APP CRS	Rwy ldg	6600
108.7	331°	TDZE	1020
		Apt Elev	1020

COPTER ILS or LOC RWY 33

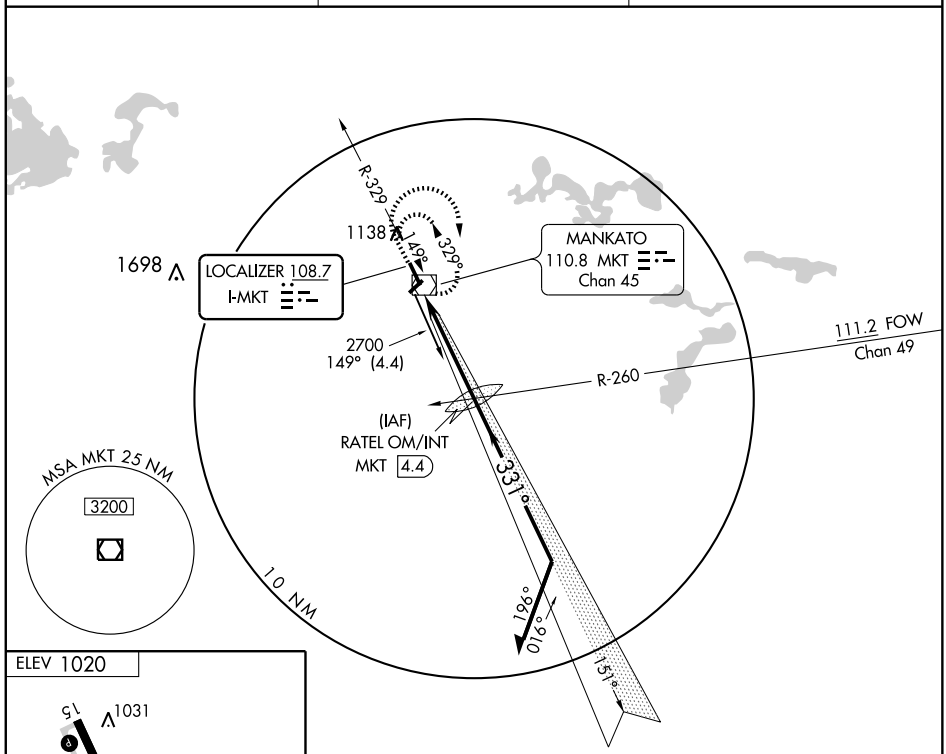
MANKATO RGNL (MKT)

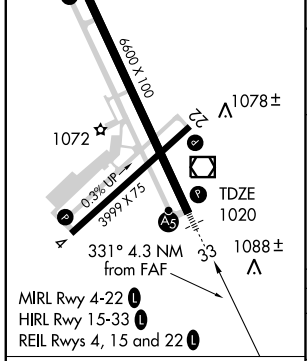
For inoperative MALSR increase visibility to ½ mile.

MALSR

MISSED APPROACH: Climb to 2000 then climbing right turn to 2700 direct MKT VOR/DME and hold.

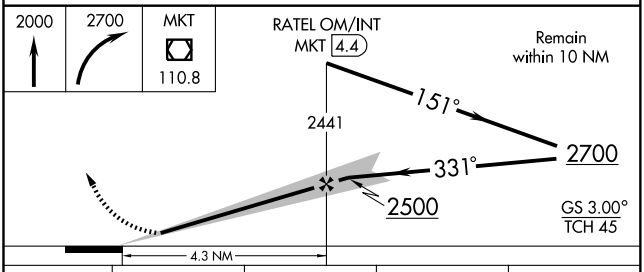
AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.8	135.0 306.9	122.725 (CTAF) L





MIRL Rwy 4-22 L
HIRL Rwy 15-33 L
REIL Rwys 4, 15 and 22 L

FAF to MAP 4.3 NM					
Knots	45	60	75	90	105
Min:Sec	5:44	4:18	3:26	2:52	2:27



CATEGORY	COPTER	B	C	D
S-ILS 33	1220-¼ 200 (200-¼)	NA		
S-LOC 33	1420-¼ 400 (400-¼)	NA		
CIRCLING	NA			

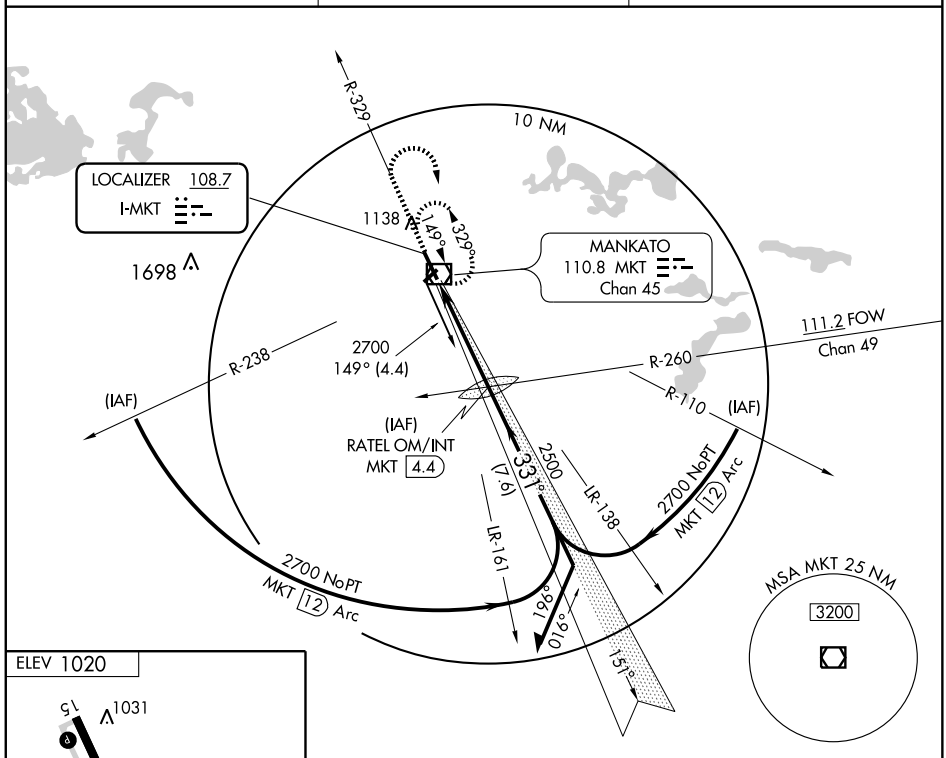
LOC I-MKT	APP CRS	Rwy ldg	6600
108.7	331°	TDZE	1020
		Apt Elev	1020

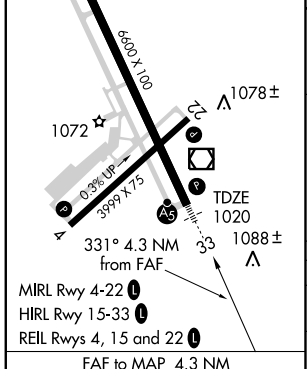
ILS RWY 33
MANKATO RGNL (MKT)

MALSR

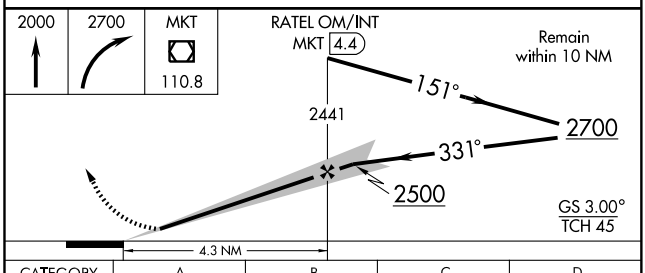
MISSED APPROACH: Climb to 2000 then climbing right turn to 2700 direct MKT VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.8	135.0 306.9	122.725 (CTAF) L





FAF to MAP 4.3 NM					
Knots	60	90	120	150	180
Min:Sec	4:18	2:52	2:09	1:43	1:26



CATEGORY	A	B	C	D
S-ILS 33	1220-½ 200 (200-½)			
S-LOC 33	1420-½ 400 (400-½)			1420-¾ 400 (400-¾)
CIRCLING	1460-1 440 (500-1)	1480-1 460 (500-1)	1480-1½ 460 (500-1½)	1580-2 560 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

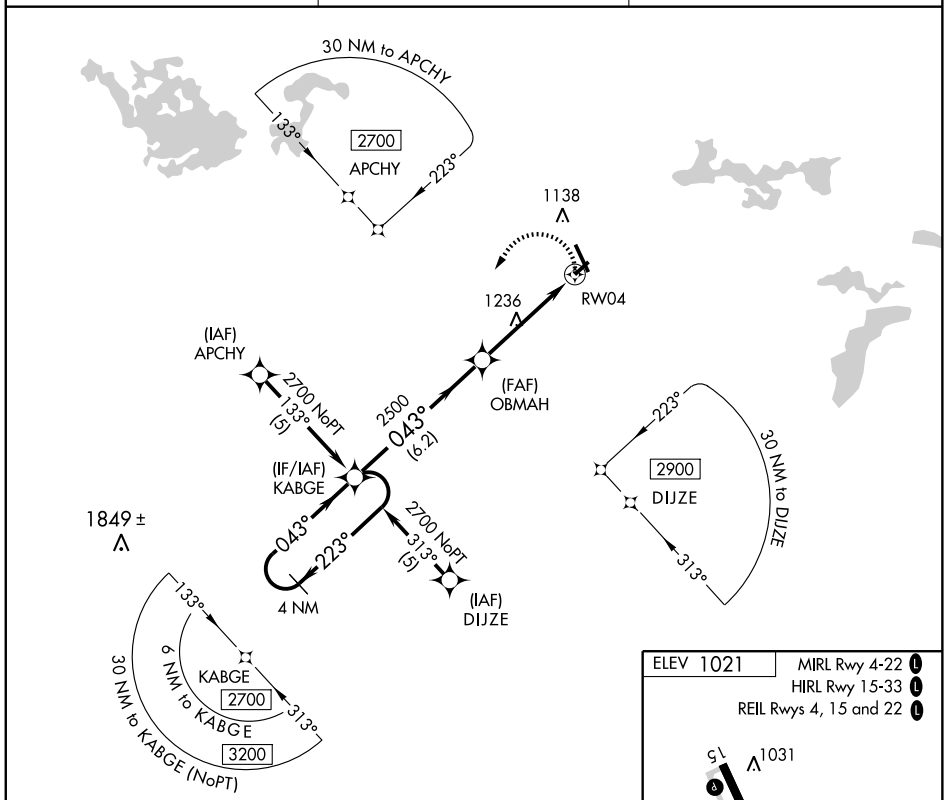
APP CRS	Rwy ldg	3999
043°	TDZE	1018
	Apt Elev	1021

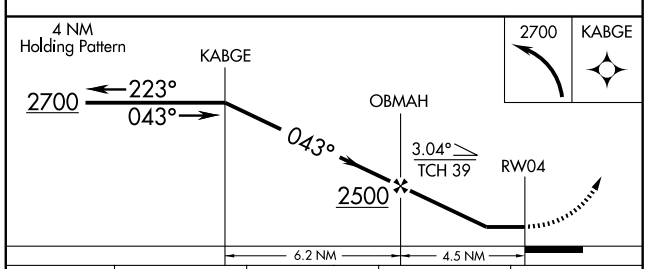
RNAV (GPS) RWY 4
MANKATO RGNL (MKT)

DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.
When local altimeter setting not received use Waseca altimeter setting and increase all MDA 60 feet.

MISSED APPROACH: Climbing left turn to 2700 direct KABGE and hold.

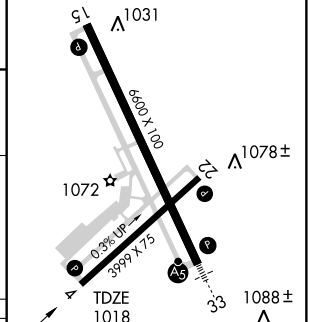
AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.8	135.0 306.9	122.725 (CTAF) L





CATEGORY	A	B	C	D
LNAV MDA	1540-1 522 (600-1)		1540-1½ 522 (600-1½)	NA
CIRCLING	1540-1 519 (600-1)		1540-1½ 519 (600-1½)	NA

ELEV 1021
MIRL Rwy 4-22 L
HIRL Rwy 15-33 L
REIL Rwys 4, 15 and 22 L



NC-1. 08 APR 2010 to 06 MAY 2010

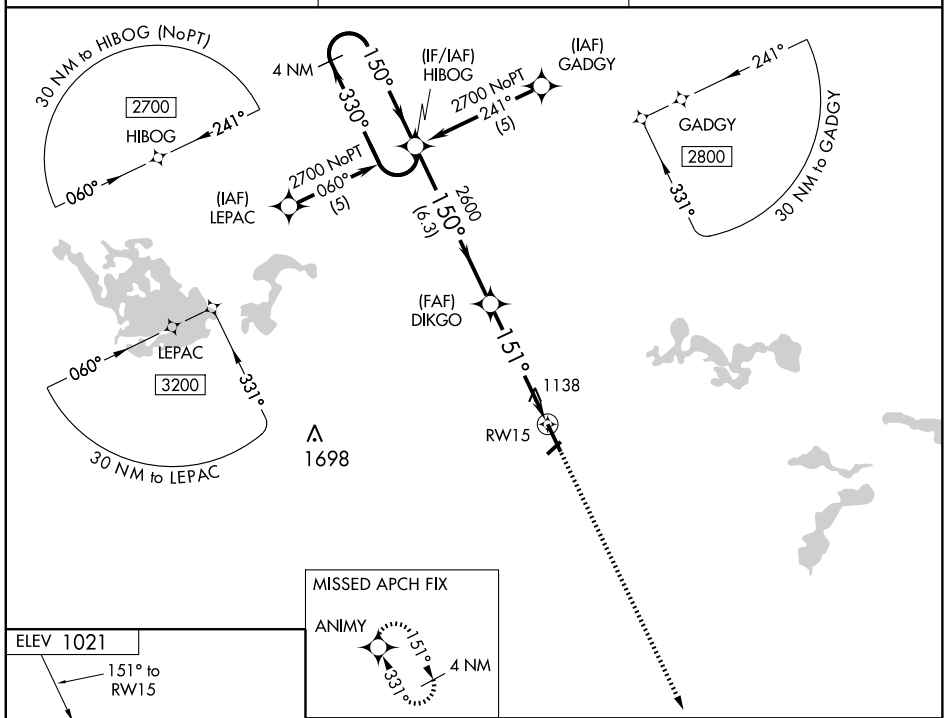
WAAS CH 45615 W15A	APP CRS 151°	Rwy ldg 6600 TDZE 1020 Apt Elev 1021

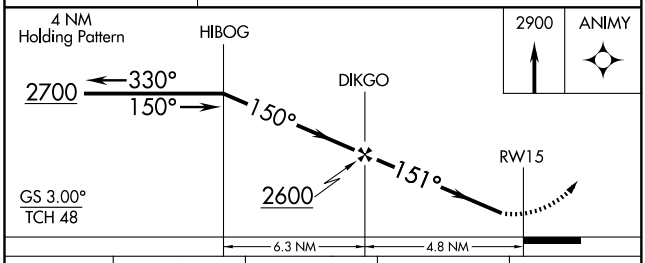
RNAV (GPS) RWY 15
MANKATO RGNL (MKT)

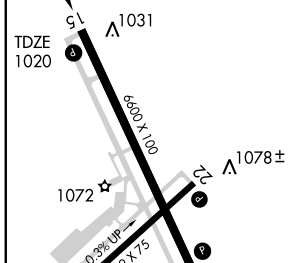
Baro-VNAV NA when using Waseca altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received use Waseca altimeter setting and increase all DA 57 feet and all MDA 60 feet and increase LPV all Cats visibility ¼ mile, and LNAV Cats C/D visibility ¼ mile.

MISSED APPROACH: Climb to 2900 direct ANIMY and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.8	135.0 306.9	122.725 (CTAF) L







CATEGORY	A	B	C	D
LPV DA	1373-1¼ 353 (400-1¼)			
LNAV/VNAV DA	1416-1½ 396 (400-1½)			
LNAV MDA	1400-1 380 (400-1)			1400-1¼ 380 (400-1¼)
CIRCLING	1440-1 419 (500-1)	1480-1 459 (500-1)	1480-1½ 459 (500-1½)	1580-2 559 (600-2)

MIRL Rwy 4-22 L
HIRL Rwy 15-33 L
REIL Rwys 4, 15 and 22 L

NC-1. 08 APR 2010 to 06 MAY 2010

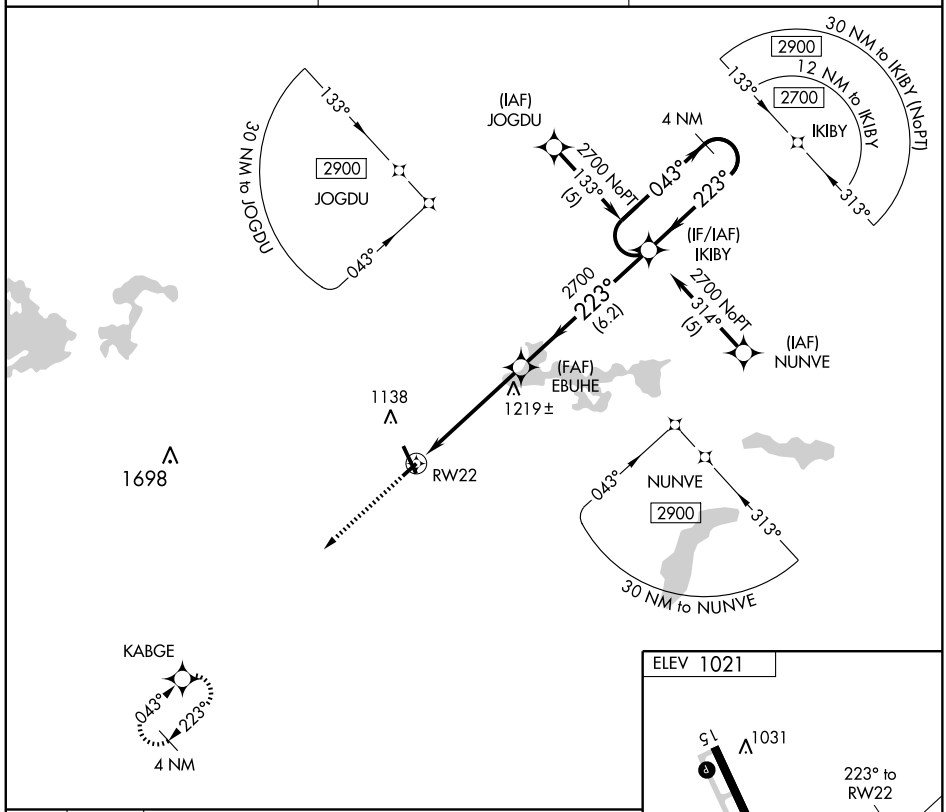
APP CRS	Rwy ldg	3999
223°	TDZE	1021
	Apt Elev	1021

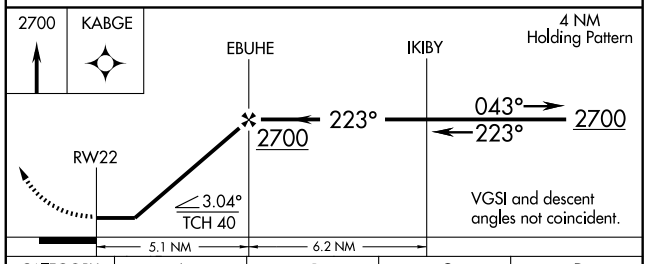
RNAV (GPS) RWY 22
MANKATO RGNL (MKT)

DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.
When local altimeter setting not received use Waseca altimeter setting and increase all MDA 60 feet and increase LNAV Cat C visibility ¼ mile.

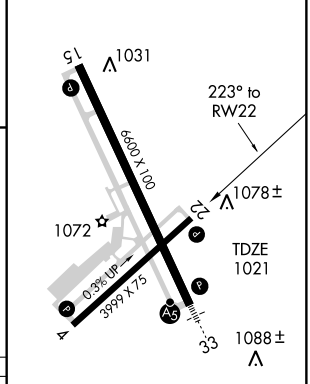
MISSED APPROACH: Climb to 2700 direct KABGE and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.8	135.0 306.9	122.725 (CTAF) L





CATEGORY	A	B	C	D
LNAV MDA	1480-1	459 (500-1)	1480-1¼ 459 (500-1¼)	NA
CIRCLING	1480-1	459 (500-1)	1480-1½ 459 (500-1½)	NA



MIRL Rwy 4-22 L
HIRL Rwy 15-33 L
REIL Rwys 4, 15 and 22 L

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 86315 W33A	APP CRS 331°	Rwy ldg 6600 TDZE 1021 Apt Elev 1021

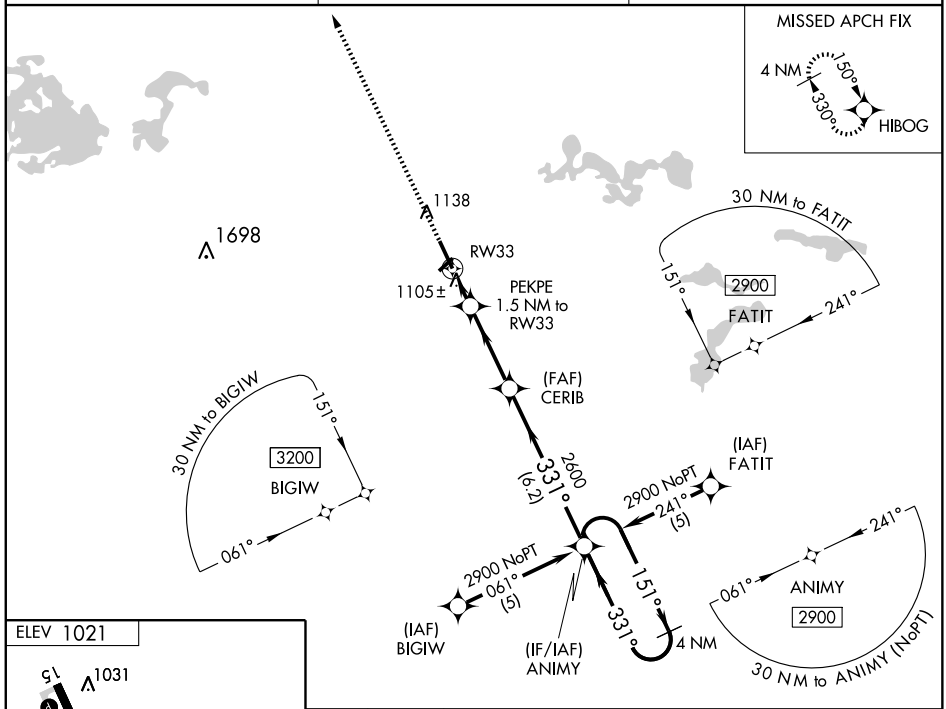
RNAV (GPS) RWY 33
MANKATO RGNL (MKT)

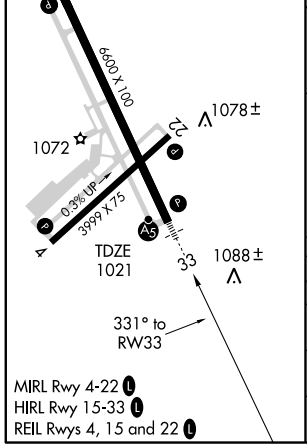
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP-0.3 NA. When local altimeter setting not received use Waseca altimeter setting and increase all DA 57 feet, all MDA 60 feet, and increase LNAV/VNAV all Cats visibility ¼ mile. Inoperative table does not apply to LNAV Cat D. When using Waseca altimeter setting; for inoperative MALSR increase LPV all Cats visibility ½ mile and LNAV Cat D visibility ¼ mile. Baro-VNAV and VDP NA when using Waseca altimeter setting.

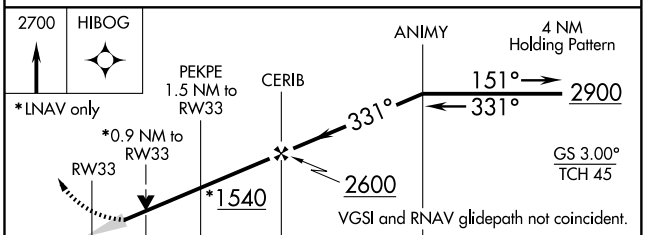
MALSR

MISSED APPROACH: Climb to 2700 direct HIBOG and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.8	135.0 306.9	122.725 (CTAF) L







CATEGORY	A	B	C	D
LPV DA	1221-½ 200 (200-½)			
LNAV/VNAV DA	1375-¾ 354 (400-¾)			
LNAV MDA	1360-½ 339 (400-½)			1360-1 339 (400-1)
CIRCLING	1440-1 419 (500-1)	1480-1 459 (500-1)	1480-1½ 459 (500-1½)	1580-2 559 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

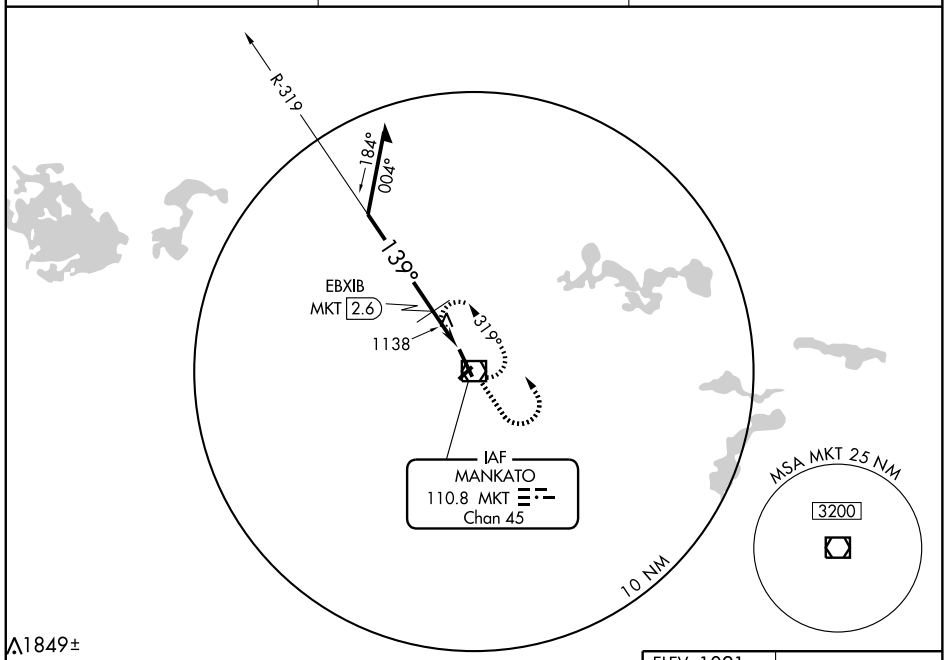
VOR/DME MKT	APP CRS	Rwy ldg	6600
110.8	139°	TDZE	1020
Chan 45		Apt Elev	1021

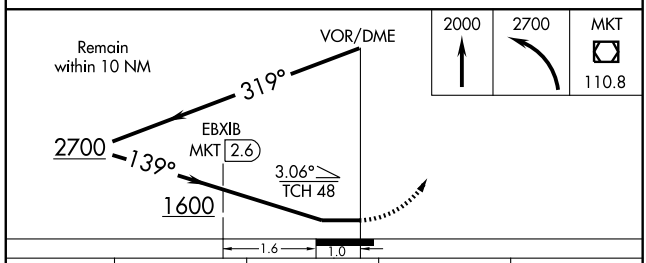
VOR RWY 15
MANKATO RGNL (MKT)

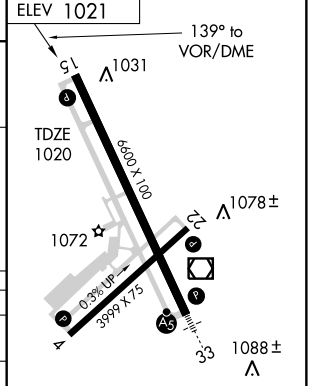
When local altimeter setting not received use Waseca altimeter setting and increase EBXIB FIX MINIMUMS all MDA 60 feet, increase Circling Cats C and D visibility ¼ mile, and increase EBXIB FIX MINIMUMS S-15 Cats C and D visibility ¼ mile.

MISSED APPROACH: Climb to 2000 then climbing left turn to 2700 direct MKT VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.8	135.0 306.9	122.725 (CTAF) L







CATEGORY	A	B	C	D
S-15	1600-1 580 (600-1)		1600-1½ 580 (600-1½)	1600-1¾ 580 (600-1¾)
CIRCLING	1600-1 579 (600-1)		1600-1½ 579 (600-1½)	1600-2 579 (600-2)
EBXIB FIX MINIMUMS				
S-15	1400-1 380 (400-1)			1400-1¼ 380 (400-1¼)
CIRCLING	1440-1 419 (500-1)	1480-1 459 (500-1)	1480-1½ 459 (500-1½)	1580-2 559 (600-2)

MIRL Rwy 4-22 L
HIRL Rwy 15-33 L
REIL Rwys 4, 15 and 22 L

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME MKT	APP CRS	Rwy ldg	6600
110.8	340°	TDZE	1021
Chan 45		Apt Elev	1021

VOR RWY 33

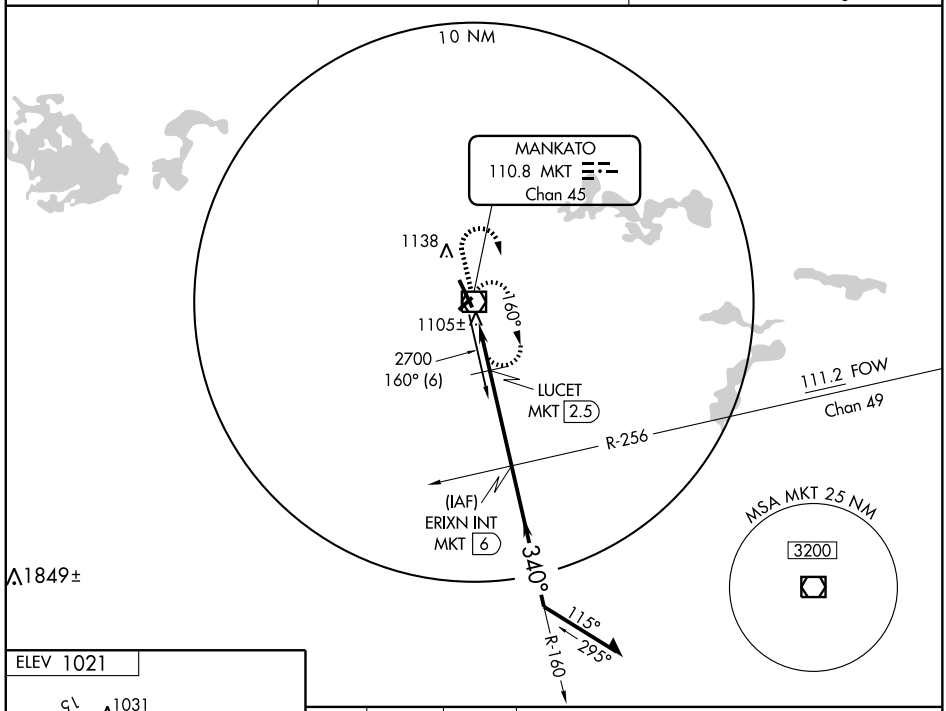
MANKATO RGNL (MKT)

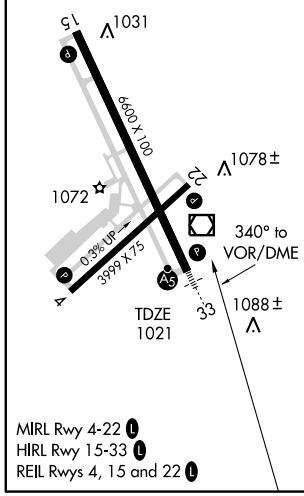
VDP NA when using Waseca altimeter setting. When local altimeter setting not received use Waseca altimeter setting and increase all MDA 60 feet, and increase S-33 Cats C and D visibility ¼ mile and LUCET FIX MINIMUMS S-33 Cat C ¼ mile. For inoperative MALSR increase LUCET FIX MINIMUMS Cat D visibility ¼ mile.

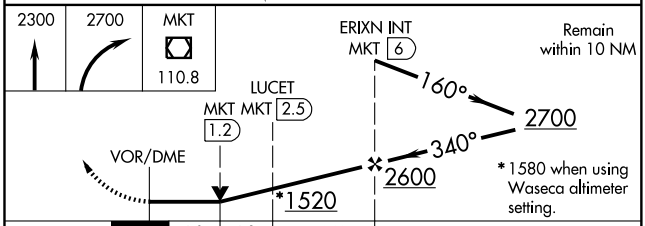
MALSR

MISSED APPROACH: Climb to 2300 then climbing right turn to 2700 direct MKT VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.8	135.0 306.9	122.725 (CTAF) L







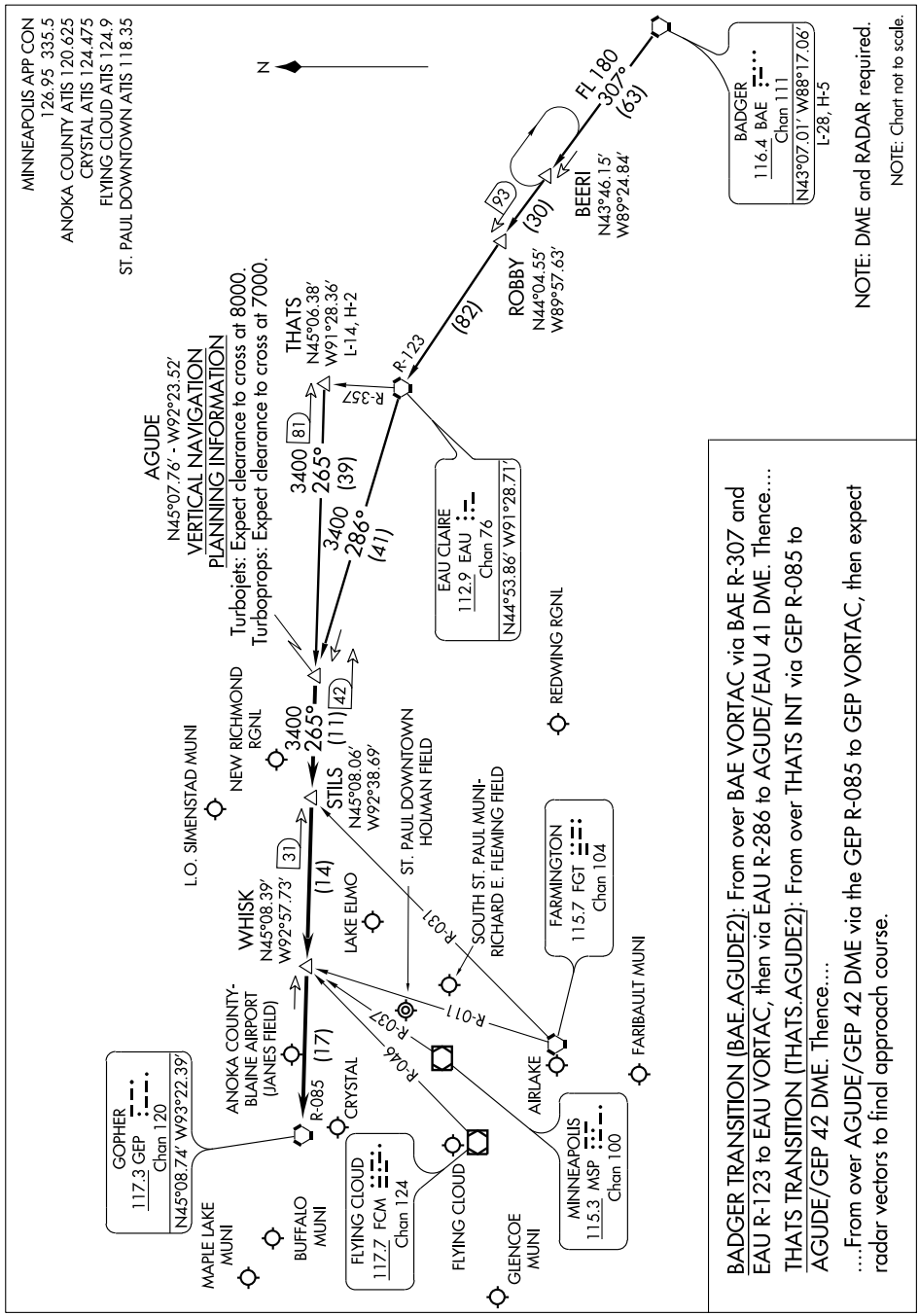
CATEGORY	A	B	C	D
S-33	1520-½ 499 (500-½)		1520-¾ 499 (500-¾)	1520-1 499 (500-1)
CIRCLING	1520-1 499 (500-1)		1520-1½ 499 (500-1½)	1580-2 559 (600-2)
LUCET FIX MINIMUMS				
S-33	1400-½ 379 (400-½)			1400-1 379 (400-1)
CIRCLING	1440-1 419 (500-1)	1480-1 459 (500-1)	1480-1½ 459 (500-1½)	1580-2 559 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

AGUDE TWO ARRIVAL

ST-263 (FAA)

MINNEAPOLIS-ST. PAUL, MINNESOTA



BADGER TRANSITION (BAE.AGUDE2): From over BAE VORTAC via BAE R-307 and EAU R-123 to EAU VORTAC, then via EAU R-286 to AGUDE/EAU 41 DME. Thence....

THATS TRANSITION (THATS.AGUDE2): From over THATS INT via GEP R-085 to AGUDE/GEP 42 DME. Thence....

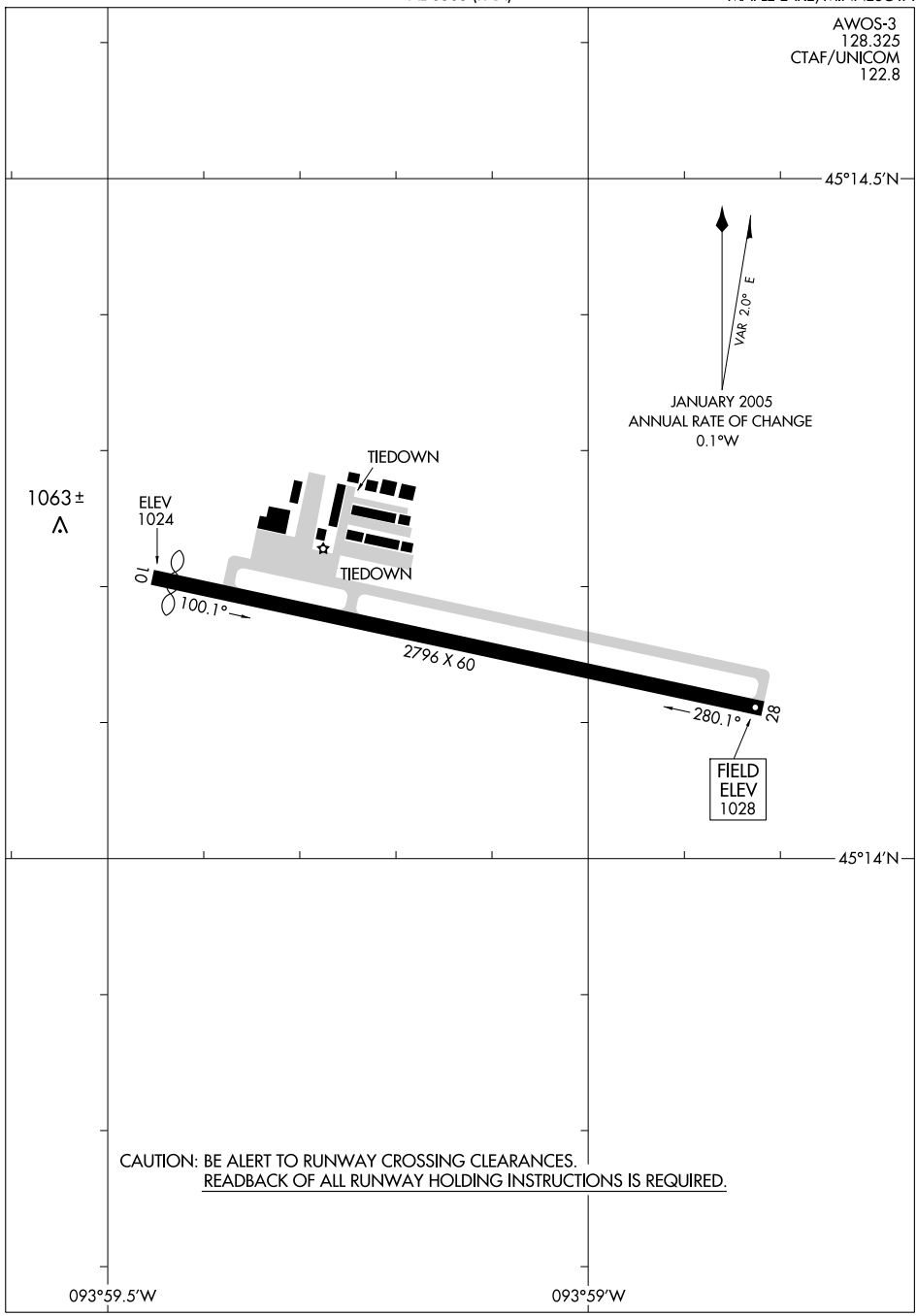
....From over AGUDE/GEP 42 DME via the GEP R-085 to GEP VORTAC, then expect radar vectors to final approach course.

09071

AIRPORT DIAGRAM

AL-6585 (FAA)

MAPLE LAKE MUNI (MGG)
MAPLE LAKE, MINNESOTA



NC-1, 08 APR 2010 to 06 MAY 2010

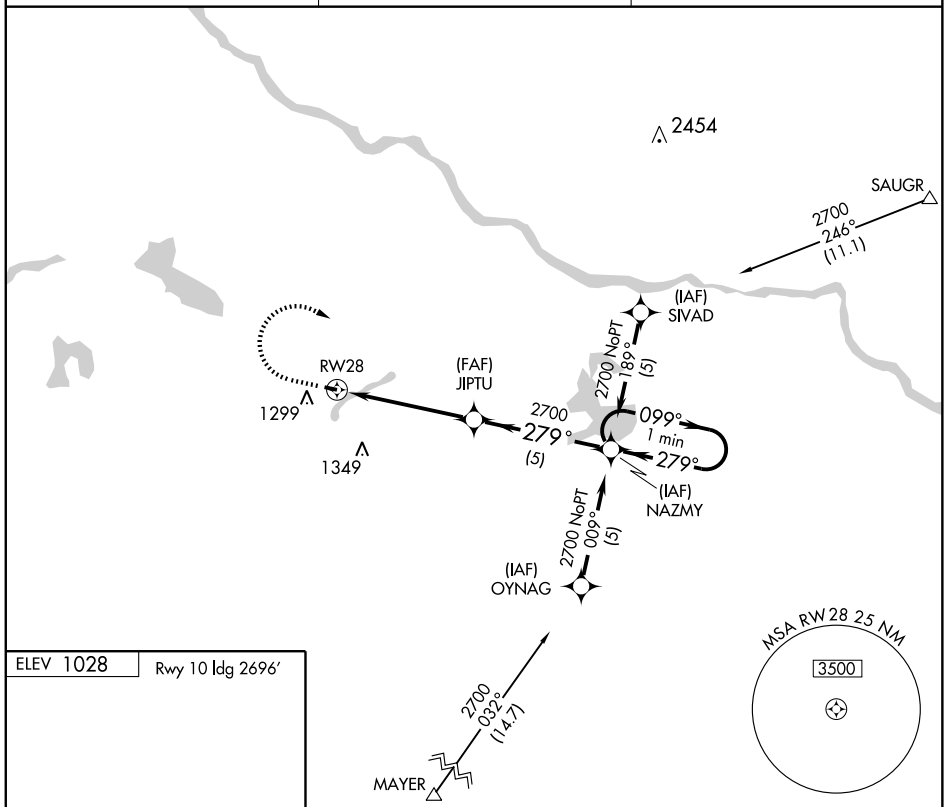
APP CRS	Rwy ldg	2796
279°	TDZE	1028
	Apt Elev	1028

GPS RWY 28
MAPLE LAKE MUNI (MGG)

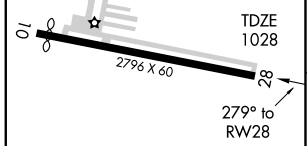
NA

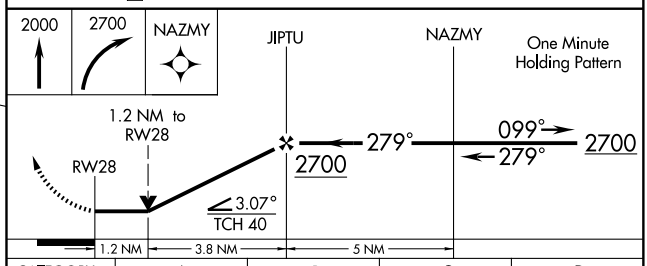
MISSED APPROACH: Climb to 2000 then climbing right turn to 2700 direct NAZMY WP and hold.

AWOS-3	MINNEAPOLIS APP CON	UNICOM
128.325	126.5 357.4	122.8 (CTAF)



ELEV 1028 Rwy 10 ldg 2696′





CATEGORY	A	B	C	D
S-28	1460-1 432 (500-1)		1460-1¼ 432 (500-1¼)	NA
CIRCLING	1600-1 572 (600-1)		1600-1½ 572 (600-1½)	NA

MIRL Rwy 10-28

NC-1. 08 APR 2010 to 06 MAY 2010

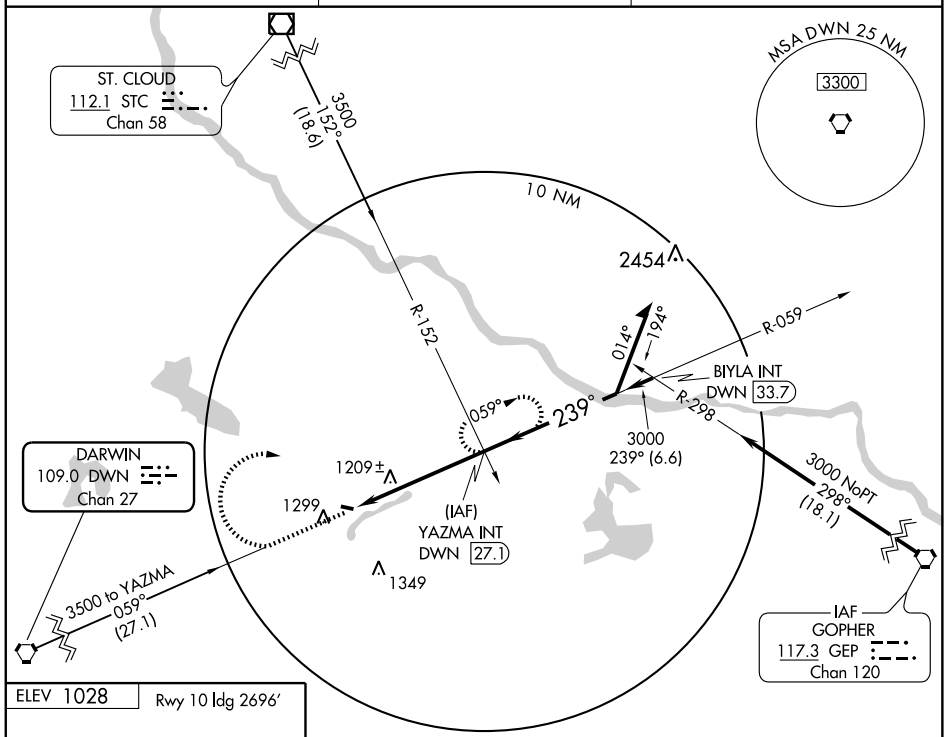
VORTAC DWN 109.0 Chan 27	APP CRS 239°	Rwy ldg N/A TDZE N/A Apt Elev 1028

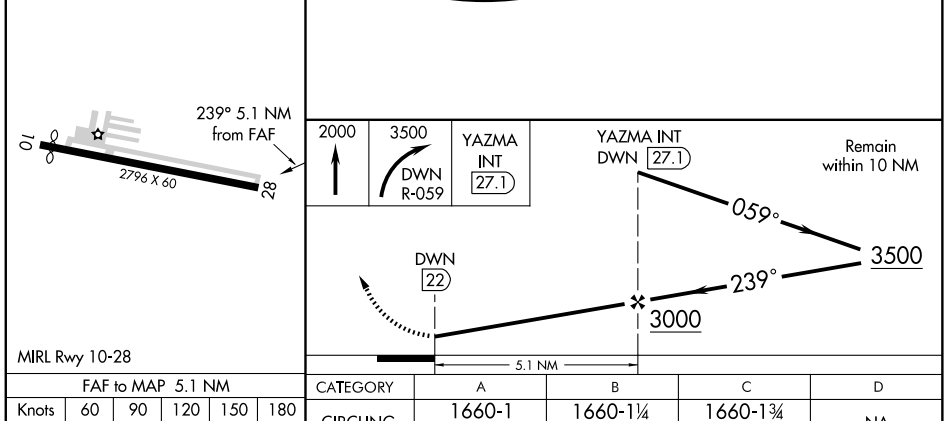
VOR-A
MAPLE LAKE MUNI (MGG)

⚠ If local altimeter setting not received, use St. Cloud Regional altimeter setting and increase all MDAs 60 feet.

MISSED APPROACH: Climb to 2000, then climbing right turn to 3500 via DWN R-059 to YAZMA INT/27.1 DME and hold.

AWOS-3	MINNEAPOLIS APP CON	UNICOM
128.325	126.5 357.4	122.8 (CTAF)





FAF to MAP 5.1 NM					
Knots	60	90	120	150	180
Min:Sec	5:06	3:24	2:33	2:02	1:42

CATEGORY	A	B	C	D
CIRCLING	1660-1 632 (700-1)	1660-1¼ 632 (700-1¼)	1660-1¾ 632 (700-1¾)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	7220
305°	TDZE	1180
	Apt Elev	1180

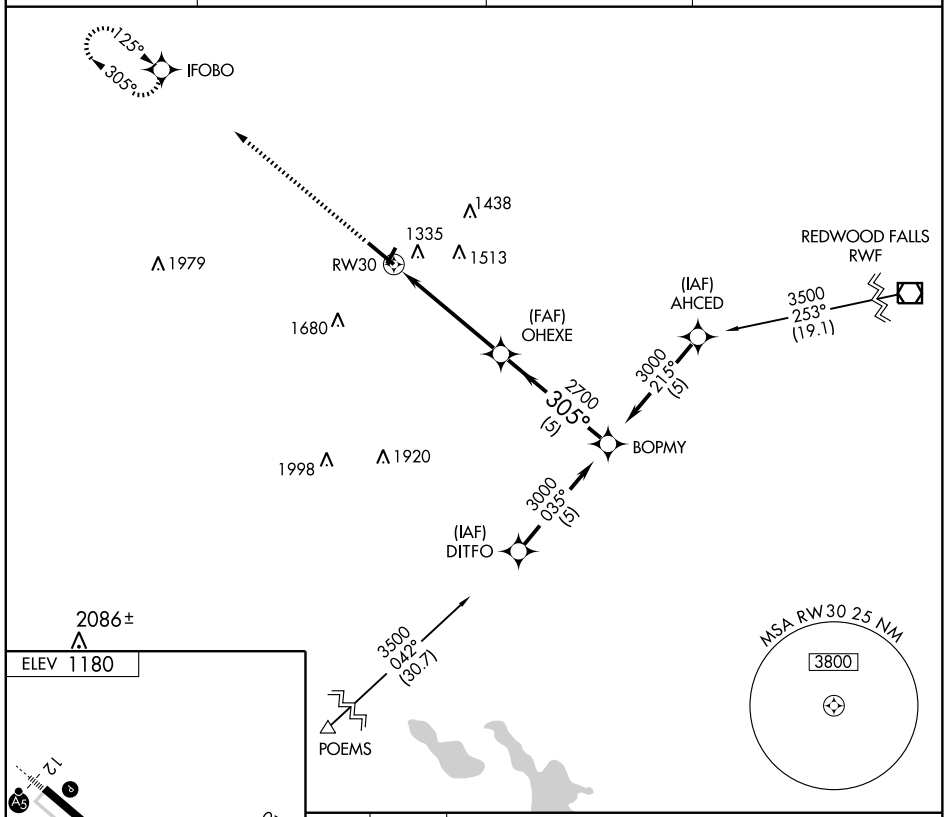
GPS RWY 30

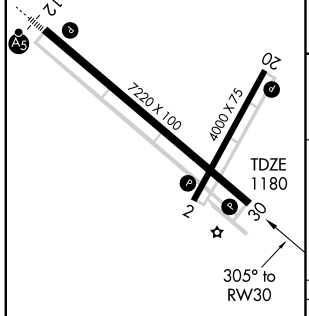
MARSHALL/ SOUTHWEST MINNESOTA RGNL MARSHALL/RYAN FIELD (MML)

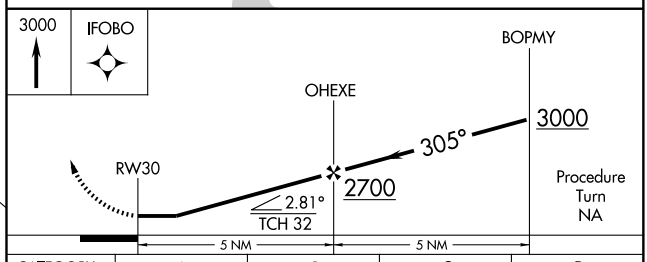
NA

MISSED APPROACH: Climb to 3000 direct IFOBO WP and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
111.0	127.1 290.2	121.725	122.8 (CTAF) L







HIRL Rwy 12-30 L
REIL Rwys 2-20 and 30 L
MIRL Rwy 2-20 L

CATEGORY	A	B	C	D
S-30	1580-1 400 (400-1)			1580-1¼ 400 (400-1¼)
CIRCLING	1640-1 460 (500-1)		1640-1½ 460 (500-1½)	1740-2 560 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-GBY	APP CRS	Rwy ldg	7220
109.7	125°	TDZE	1182
		Apt Elev	1182

MARSHALL/
SOUTHWEST MINNESOTA RGNL MARSHALL/RYAN FIELD (MML)

ILS or LOC RWY 12

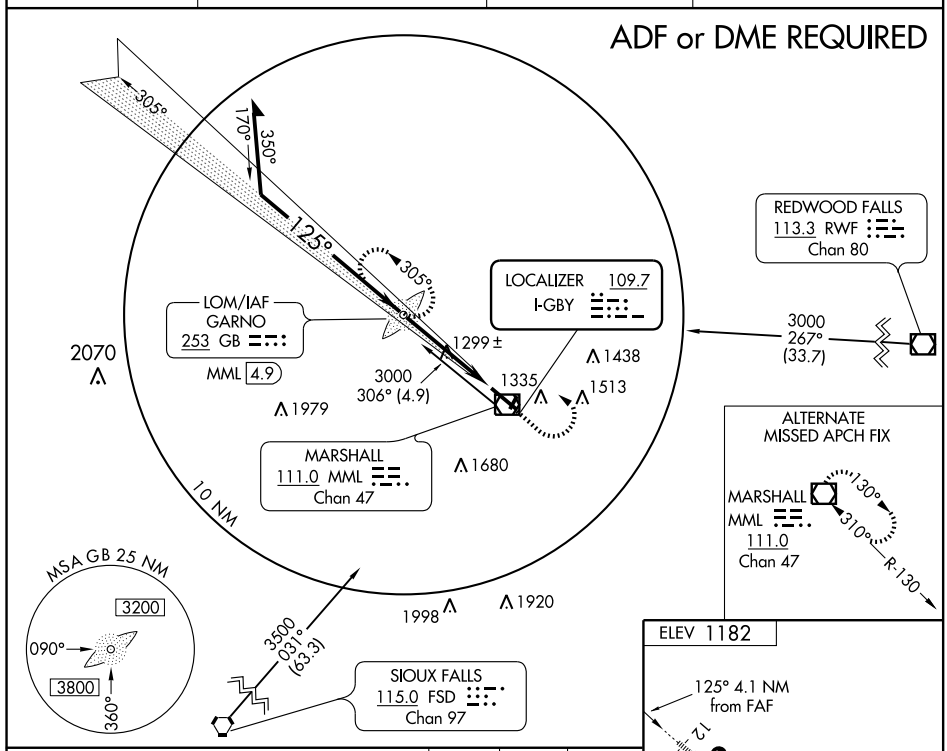
T A NA ADF required.
When local altimeter setting not received, use Tracy Muni altimeter setting and increase all DAs/MDAs 60 feet and S-LOC 12 Cats C/D visibility ¼ mile. For inoperative MALSR when using Tracy Muni altimeter setting, increase S-ILS 12 visibility to 1 mile all Cats.

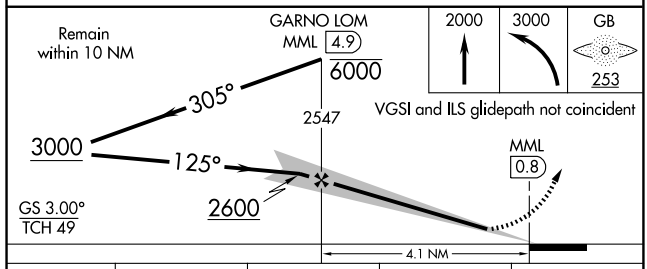
MALSR A5

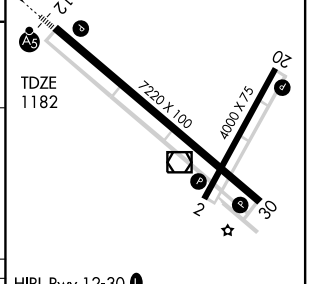
MISSED APPROACH: Climb to 2000 then climbing left turn to 3000 direct GARNO LOM/MML 4.9 DME and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
111.0	127.1 290.2	121.725	122.8 (CTAF) L

ADF or DME REQUIRED







HIRL Rwy 12-30 L
REIL Rwys 2-20 and 30 L
MIRL Rwy 2-20 L

CATEGORY	A	B	C	D
S-ILS 12	1382-½ 200 (200-½)			
S-LOC 12	1560-½ 378 (400-½)			1560-¾ 378 (400-¾)
CIRCLING	1640-1 458 (500-1)		1640-1½ 458 (500-1½)	1740-2 558 (600-2)

FAF to MAP 4.1 NM					
Knots	60	90	120	150	180
Min:Sec	4:06	2:44	2:03	1:38	1:22

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 82106 W12A	APP CRS 125°	Rwy ldg 7220 TDZE 1182 Apt Elev 1182

MARSHALL/
SOUTHWEST MINNESOTA RGNL MARSHALL/RYAN FIELD (MML)

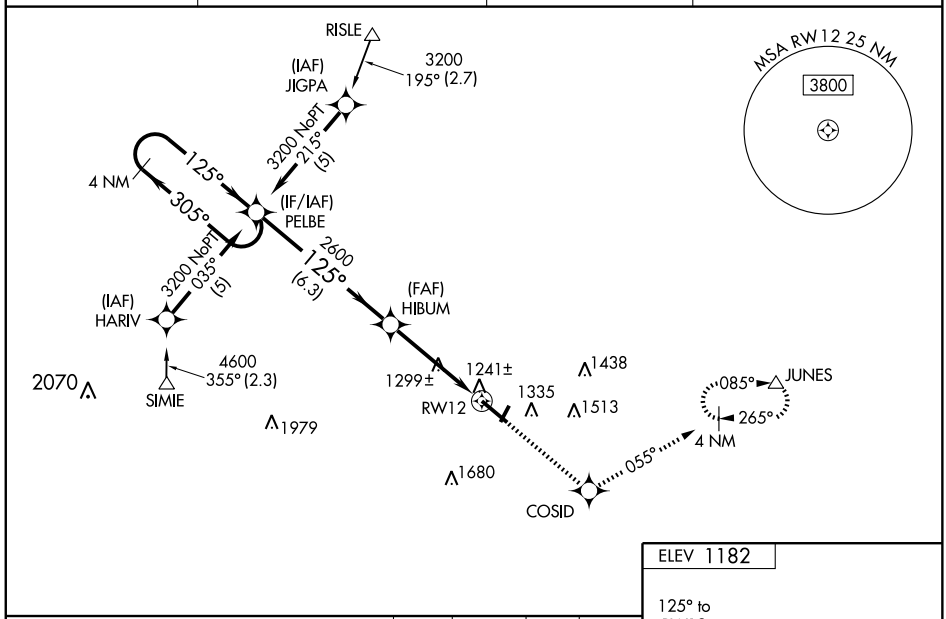
RNAV (GPS) RWY 12

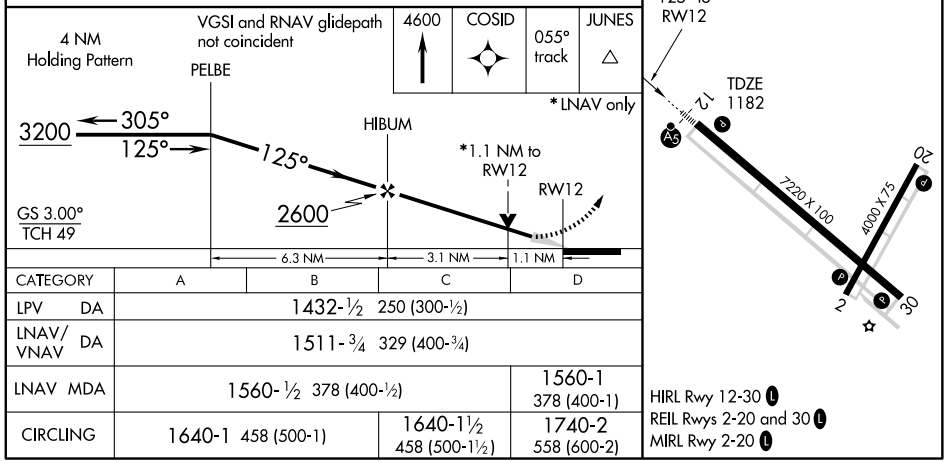
T DME/DME RNP-0.3 NA.
A When local altimeter setting not received, use Tracy Muni altimeter setting and increase all DAs/MDAs 60 feet and LNAV Cat. C visibility ¼ mile.
W VDP and Baro-VNAV NA when using Tracy Muni altimeter setting.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F).
For inoperative MALSR when using Tracy Muni altimeter setting, increase LPV visibility to 1 mile all Cats.
For inoperative MALSR, increase LNAV Cat. D visibility to 1¼ mile.

MALSR

MISSED APPROACH: Climb to 4600, direct COSID and via 055° track to JUNES and hold, continue climb-in-hold to 4600.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
111.0	127.1 290.2	121.725	122.8 (CTAF) L





CATEGORY	A	B	C	D
LPV DA	1432-½ 250 (300-½)			
LNAV/VNAV DA	1511-¾ 329 (400-¾)			
LNAV MDA	1560-½ 378 (400-½)			1560-1 378 (400-1)
CIRCLING	1640-1 458 (500-1)		1640-1½ 458 (500-1½)	1740-2 558 (600-2)

HIRL Rwy 12-30 L
REIL Rwys 2-20 and 30 L
MIRL Rwy 2-20 L

NC-1. 08 APR 2010 to 06 MAY 2010

MARSHALL, MINNESOTA

AL-5640 (FAA)

VOR/DME MML 111.0 Chan 47	APP CRS 298°	Rwy ldg 7220 TDZE 1180 Apt Elev 1180

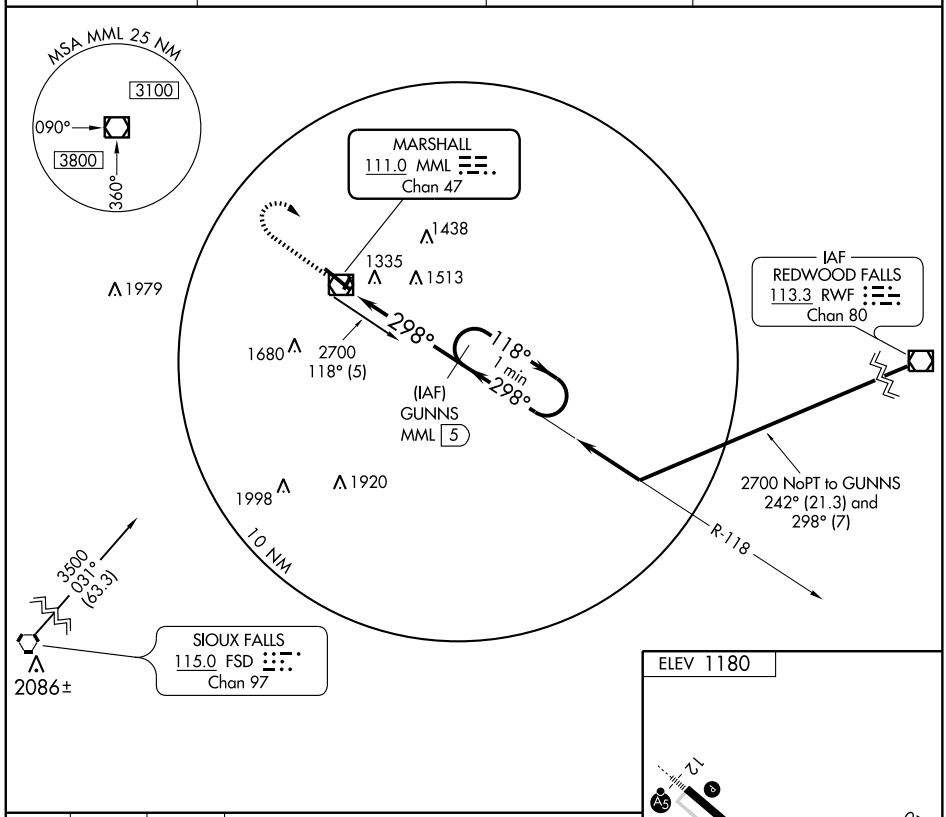
MARSHALL/
SOUTHWEST MINNESOTA RGNL MARSHALL/RYAN FIELD (MML)

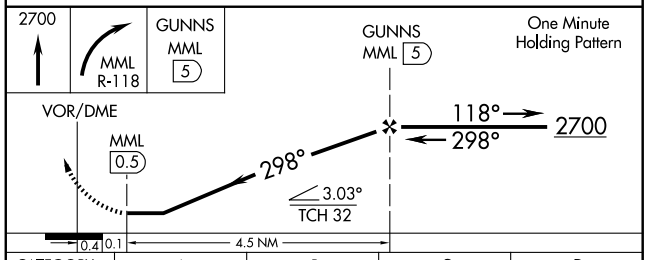
VOR/DME RWY 30

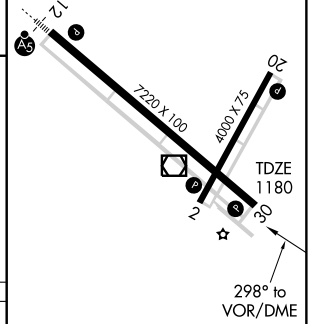
NA

MISSED APPROACH: Climb to 2700, then right turn via MML VOR/DME R-118 to GUNNS/MML 5 DME and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
111.0	127.1 290.2	121.725	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-30	1600-1 420 (500-1)		1600-1¼ 420 (500-1¼)	
CIRCLING	1640-1 460 (500-1)		1640-1½ 460 (500-1½)	1740-2 560 (600-2)

HIRL Rwy 12-30 L
REIL Rwys 2-20 and 30 L
MIRL Rwy 2-20 L

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME MML 111.0 Chan 47	APP CRS 130°	Rwy ldg 7220 TDZE 1182 Apt Elev 1182	MARSHALL/ SOUTHWEST MINNESOTA RGNL MARSHALL/RYAN FIELD (MML)

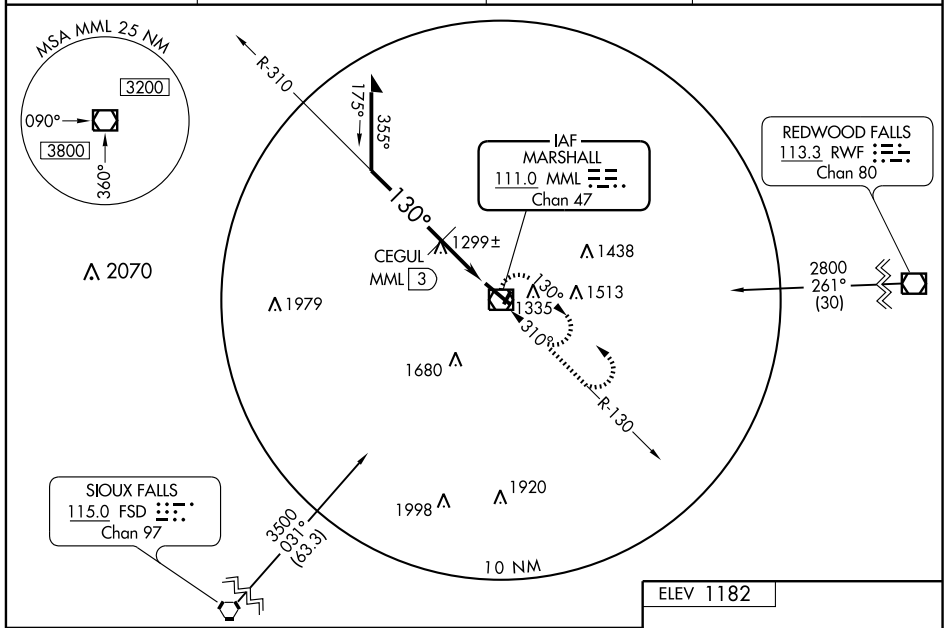
VOR RWY 12

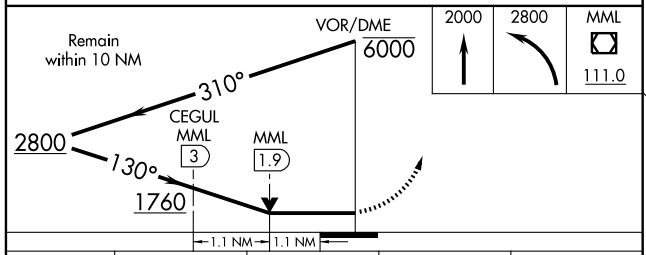
For inoperative MALSR, increase CEGUL FIX MINIMUMS S-12 Cat. D visibility to 1¼ mile.
When local altimeter setting not received, use Tracy Muni altimeter setting and increase all MDAs 60 feet and S-12 Cat. C/D visibility ¼ mile; increase Circling Cat. C visibiltiy ¼ mile. Increase CEGUL FIX MINIMUMS S-12 Cat. C visibility to ¾ mile.
VDP NA when using Tracy Muni altimeter setting.

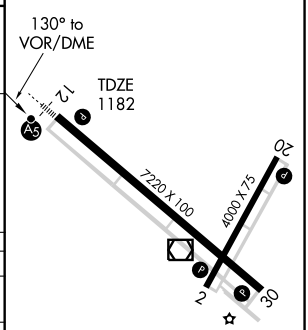
MALSR

MISSED APPROACH: Climb to 2000, then climbing left turn to 2800 direct MML VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
111.0	127.1 290.2	121.725	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-12	1760-½ 578 (600-½)		1760-1 578 (600-1)	1760-1¼ 578 (600-1¼)
CIRCLING	1760-1 578 (600-1)		1760-1½ 578 (600-1½)	1760-2 578 (600-2)
CEGUL FIX MINIMUMS				
S-12	1560-½ 378 (400-½)			1560-1 378 (400-1)
CIRCLING	1640-1 458 (500-1)		1640-1½ 458 (500-1½)	1740-2 558 (600-2)

HIRL Rwy 12-30 L
REIL Rwys 2-20 and 30 L
MIRL Rwy 2-20 L

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	3400
139°	TDZE	1228
	Apt Elev	1228

RNAV (GPS) RWY 14

MC GREGOR/ISEDOR IVERSON (HZX)

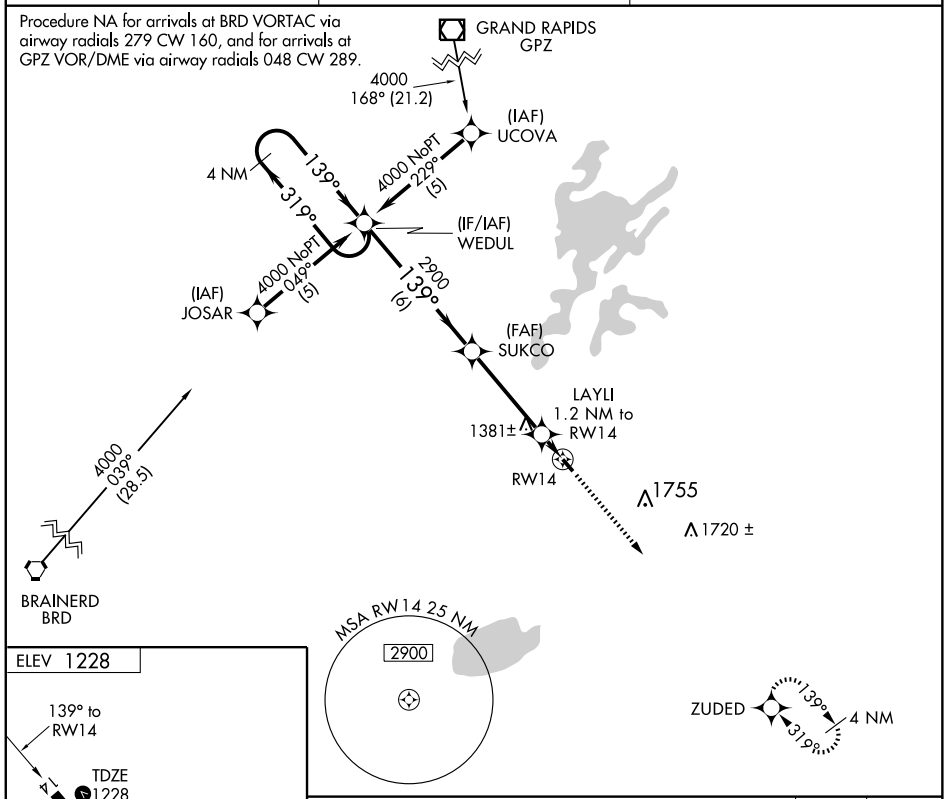
NA

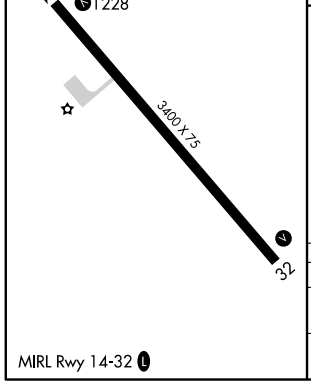
DME/DME RNP- 0.3 NA.
If local altimeter setting not received, use Aitkin altimeter setting and increase all MDAs 40 feet.
Procedure NA at night.

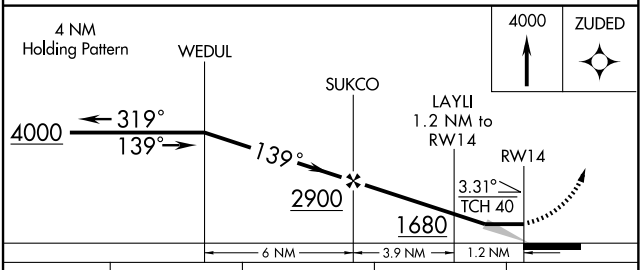
MISSED APPROACH: Climb to 4000 direct ZUDED and hold.

ASOS-3	MINNEAPOLIS CENTER	CTAF
119.575	127.9 281.45	122.9 L

Procedure NA for arrivals at BRD VORTAC via airway radials 279 CW 160, and for arrivals at GPZ VOR/DME via airway radials 048 CW 289.







CATEGORY	A	B	C	D
LNAV MDA	1580-1 352 (400-1)		NA	
CIRCLING	1660-1 432 (500-1)	1680-1 452 (500-1)	NA	

APP CRS	Rwy ldg	3400
319°	TDZE	1226
	Apt Elev	1228

RNAV (GPS) RWY 32

MC GREGOR/ ISEDOR IVERSON (HZX)

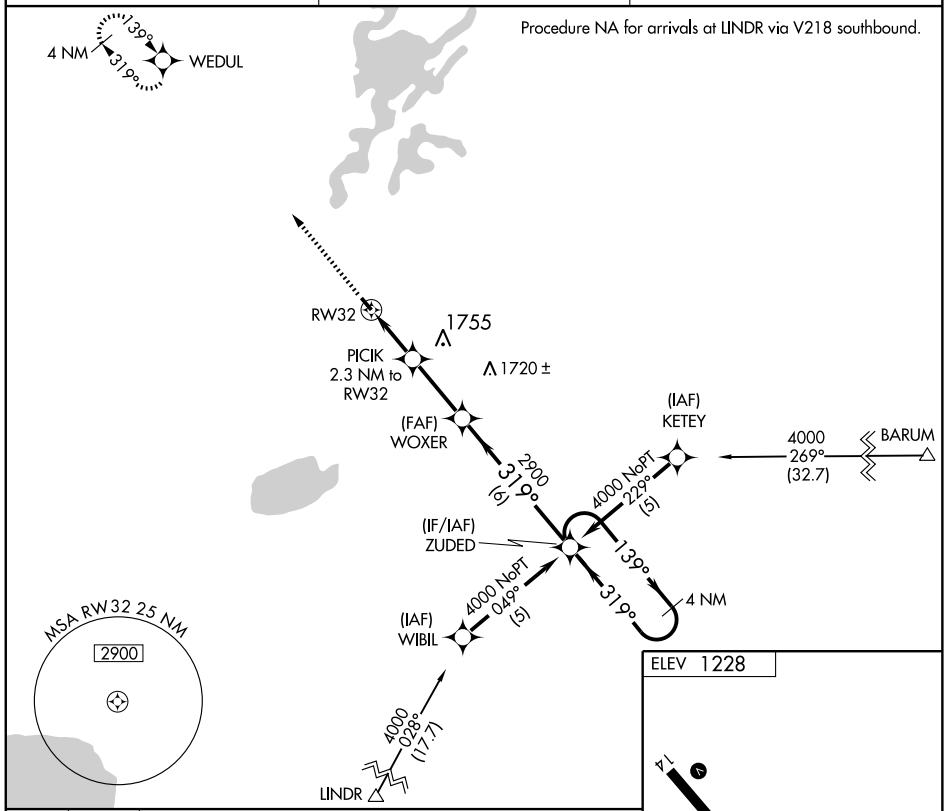
NA

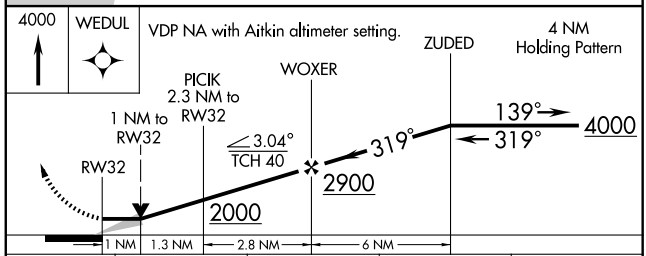
DME/DME RNP- 0.3 NA.
If local altimeter setting not received, use Aitkin altimeter setting and increase all MDAs 40 feet.
Procedure NA at night.

MISSED APPROACH: Climb to 4000 direct WEDUL and hold.

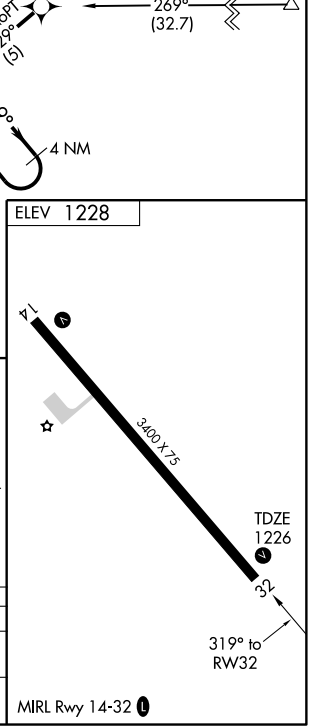
ASOS-3	MINNEAPOLIS CENTER	CTAF
119.575	127.9 281.45	122.9 L

Procedure NA for arrivals at LINDR via V218 southbound.





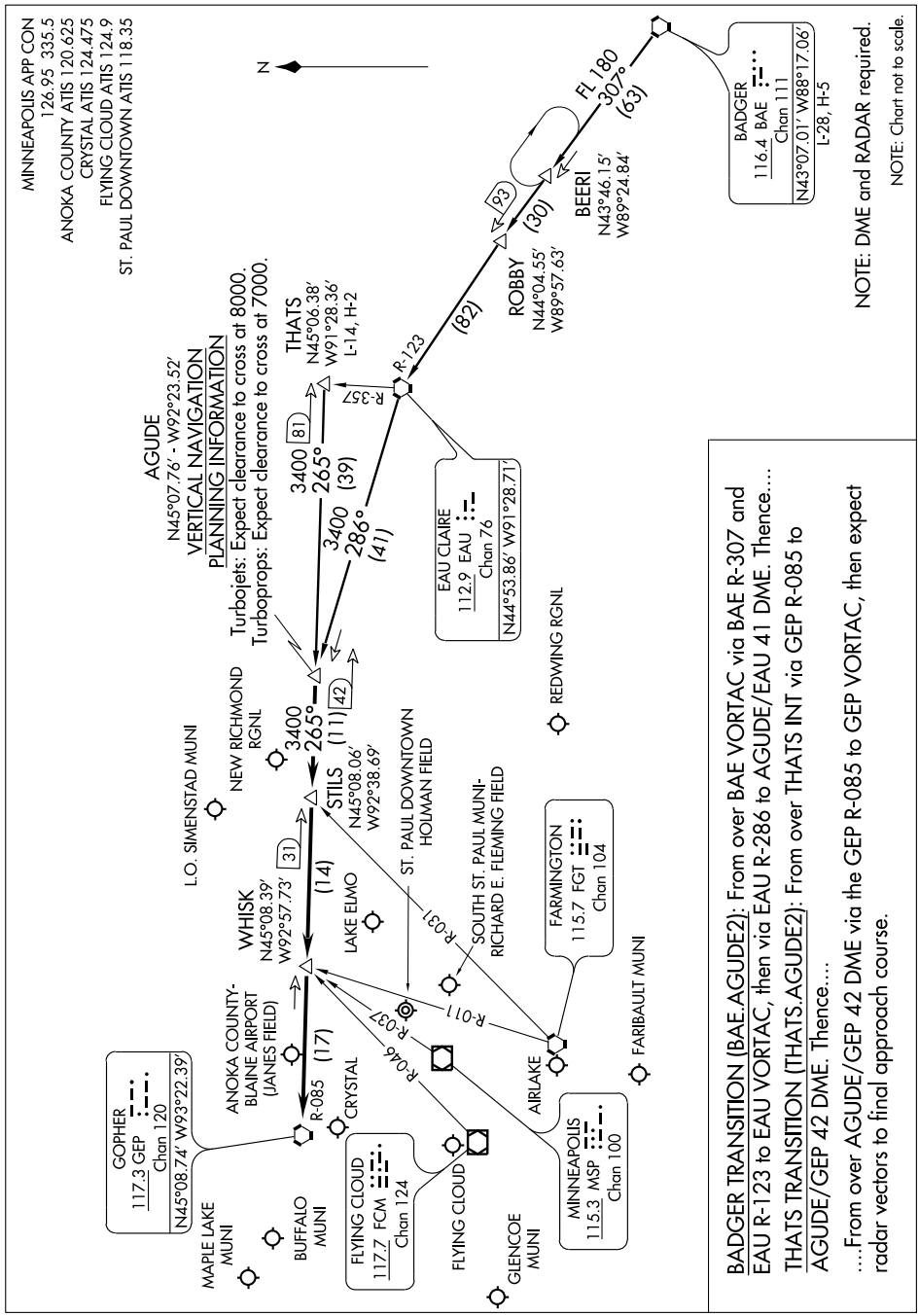
CATEGORY	A	B	C	D
LNAV MDA	1600-1 374 (400-1)		NA	
CIRCLING	1660-1 432 (500-1)	1680-1 452 (500-1)	NA	



AGUDE TWO ARRIVAL

ST-263 (FAA)

MINNEAPOLIS-ST. PAUL, MINNESOTA



BADGER TRANSITION (BAE.AGUDE2): From over BAE VORTAC via BAE R-307 and EAU R-123 to EAU VORTAC, then via EAU R-286 to AGUDE/EAU 41 DME. Thence....

THATS TRANSITION (THATS.AGUDE2): From over THATS INT via GEP R-085 to AGUDE/GEP 42 DME. Thence....

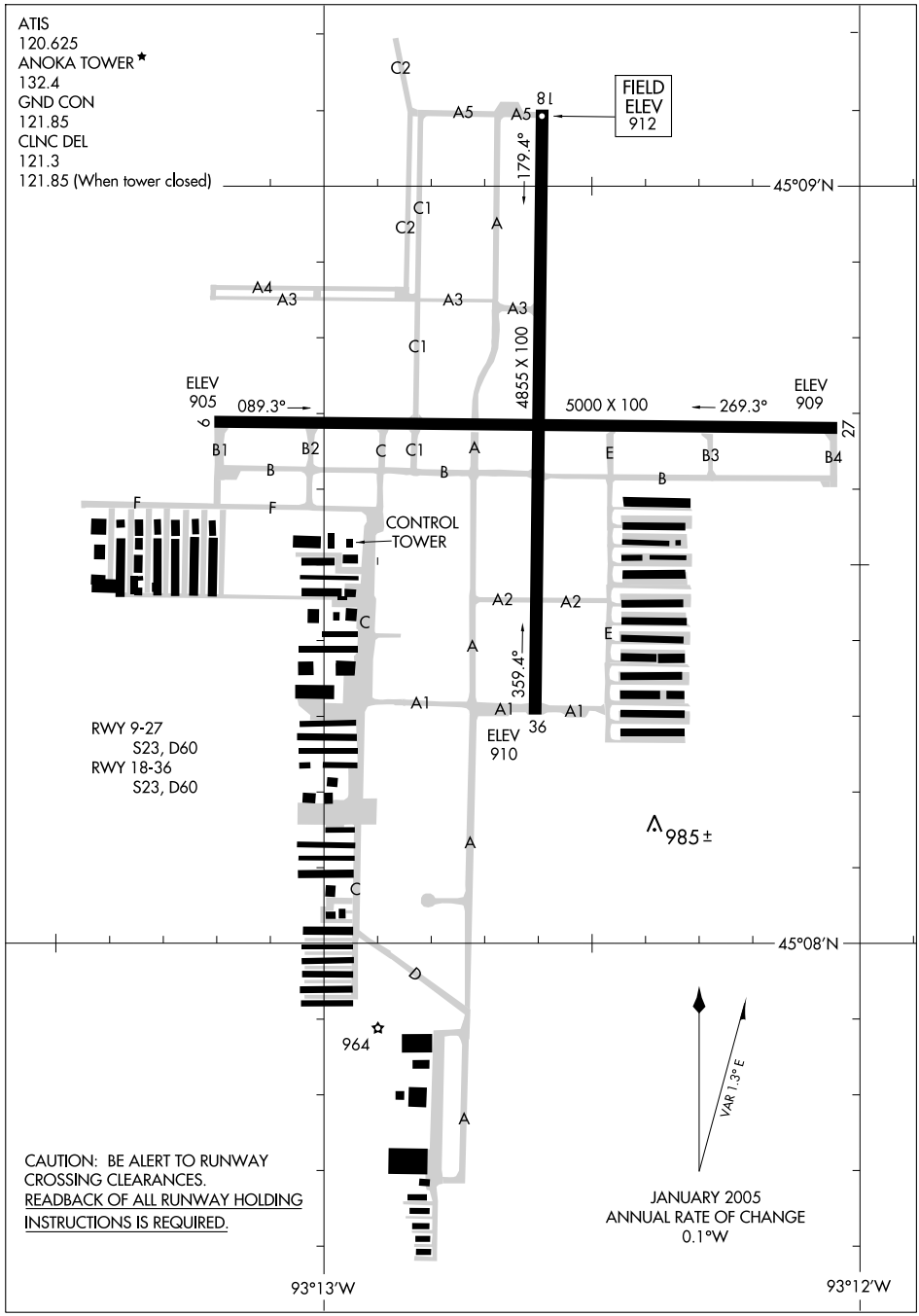
....From over AGUDE/GEP 42 DME via the GEP R-085 to GEP VORTAC, then expect radar vectors to final approach course.

AIRPORT DIAGRAM

MINNEAPOLIS/ANOKA COUNTY- BLAINE AIRPORT (JANES FIELD) (ANE)

AL-5202 (FAA)

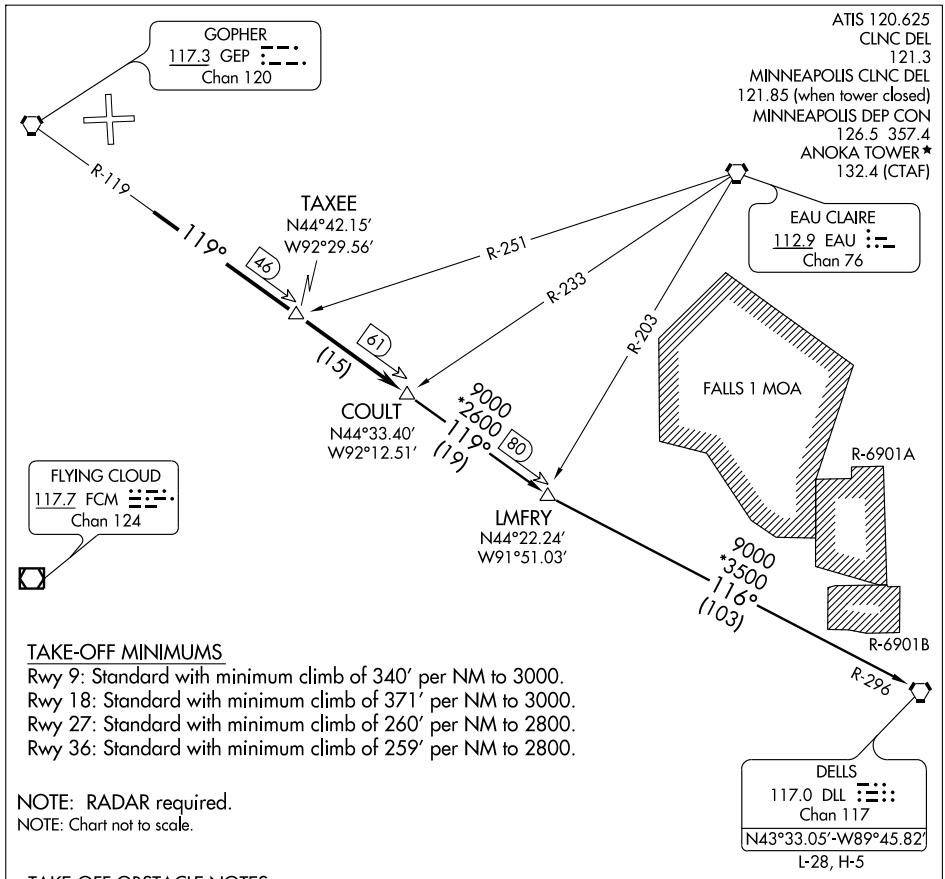
MINNEAPOLIS, MINNESOTA



NC-1, 08 APR 2010 to 06 MAY 2010

COULT THREE DEPARTURE

SL-5202 (FAA) MINNEAPOLIS, MINNESOTA



TAKE-OFF MINIMUMS

Rwy 9: Standard with minimum climb of 340′ per NM to 3000.
Rwy 18: Standard with minimum climb of 371′ per NM to 3000.
Rwy 27: Standard with minimum climb of 260′ per NM to 2800.
Rwy 36: Standard with minimum climb of 259′ per NM to 2800.

NOTE: RADAR required.
NOTE: Chart not to scale.

TAKE-OFF OBSTACLE NOTES

RWY 9: Tank and multiple trees beginning 822′ from DER, 619′ right of centerline, up to 170′ AGL/1082′ MSL.
Trees 2248′ from DER, 966′ left of centerline, 100′ AGL/1009′ MSL.

RWY18: Aircraft on taxiway 36′ from DER, 481′ right of centerline, up to 21′ AGL/928′ MSL.
Multiple trees beginning 406′ from DER, 287′ left of centerline, up to 49′ AGL/959′ MSL.
Tower 5016′drom DER, 201′ left of centerline, 120′ AGL/1078′ MSL.

RWY 27: Multiple trees beginning 7′ from DER, 235′ right of centerline, up to 83′ AGL/983′ MSL.
Multiple trees beginning 558′ from DER, 406′ left of centerline, up to 57′ AGL/957′ MSL.

RWY 36: Multiple trees beginning 86′ from DER, 10′ right of centerline, up to 87′ AGL/987′ MSL.
Multiple trees beginning 1282′ from DER, 53′ left of centerline, up to 70′ AGL/970′ MSL.

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to intercept GEP R-119 to COULT INT/GEP 61 DME, thence . . . .
. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

DELLS TRANSITION (COULT3.DLL): From over COULT INT via GEP R-119 to LMFRY, then via DLL R-296 to DLL VORTAC.

NC-1, 08 APR 2010 to 06 MAY 2010

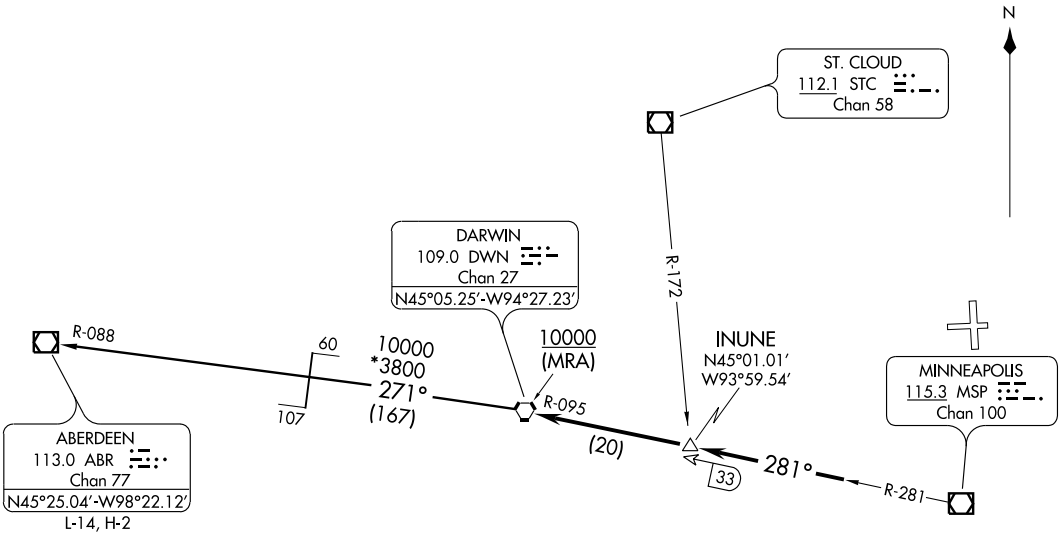
DARWIN THREE DEPARTURE

MINNEAPOLIS/ANOKA COUNTY-BLAINE AIRPORT (JANES FIELD) (ANE)

SL-5202 (FAA)

MINNEAPOLIS, MINNESOTA

ATIS 120.625
CLNC DEL
121.3
MINNEAPOLIS CLNC DEL
121.85 (when tower closed)
MINNEAPOLIS DEP CON
126.5 357.4



TAKE-OFF MINIMUMS

Rwy 9: Standard with minimum climb of 340′ per NM to 3000.
Rwy 18: Standard with minimum climb of 371′ per NM to 3000.
Rwy 27: Standard with minimum climb of 260′ per NM to 2800.
Rwy 36: Standard with minimum climb of 259′ per NM to 2800.

NOTE: RADAR required.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

DARWIN THREE DEPARTURE

T

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-281 and DWN R-095 to DWN VORTAC, thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

ABERDEEN TRANSITION (DWN2.ABR): From over DWN VORTAC via DWN R-271 and ABR R-088 to ABR VOR/DME.

TAKE-OFF OBSTACLE NOTES

RWY 9: Tank and multiple trees 822′ from DER, 619′ right of centerline, up to 170′ AGL/1082′ MSL.
Trees 2248′ from DER, 966′ left of centerline, 100′ AGL/1009′ MSL.

RWY 18: Aircraft on taxiway 36′ from DER, 481′ right of centerline, up to 21′ AGL/928′ MSL.
Multiple trees beginning 406′ from DER, 287′ left of centerline, up to 49′ AGL/959′ MSL.
Tower 5016′ from DER, 201′ left of centerline, 120′ AGL/1078′ MSL.

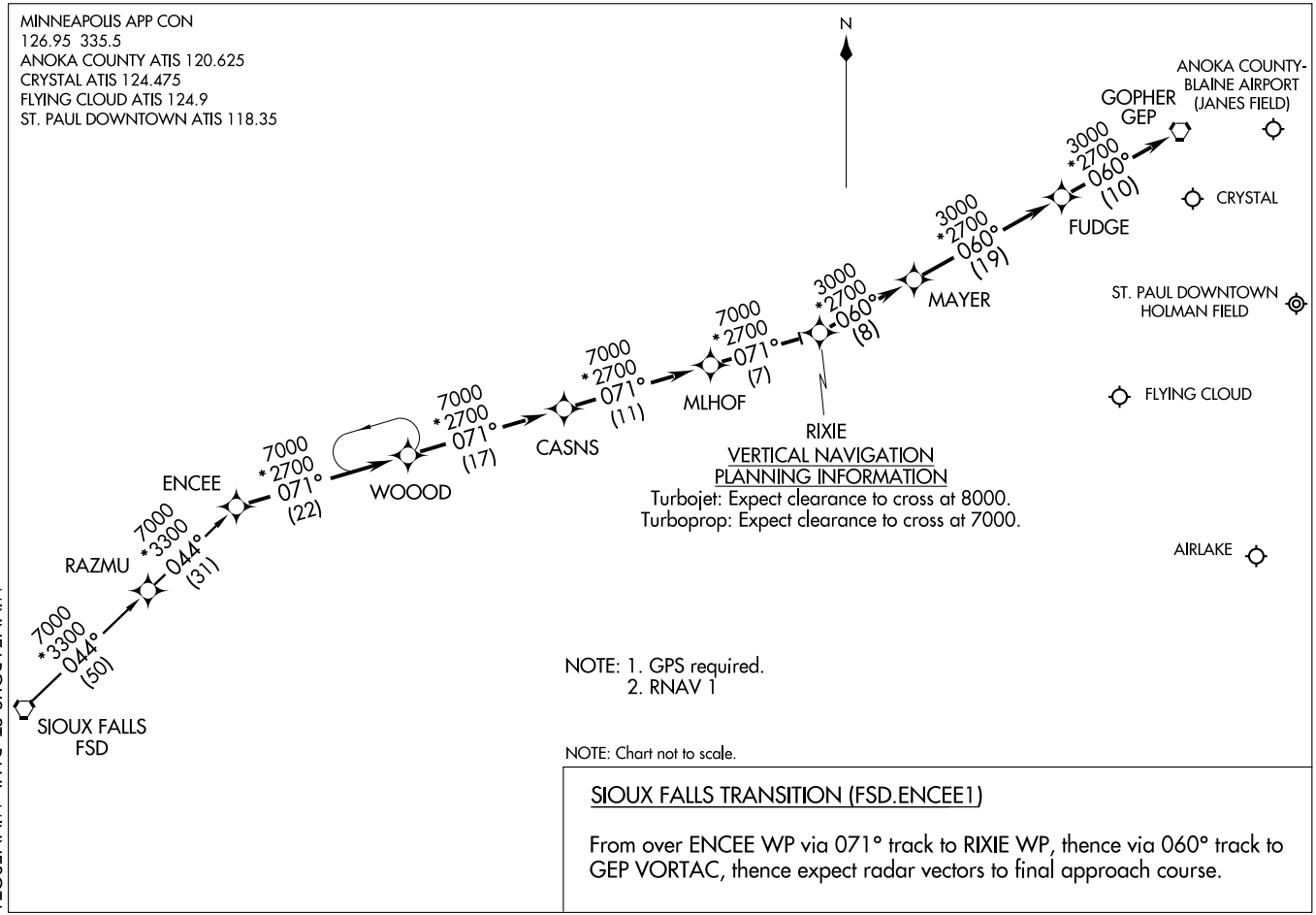
RWY 27: Multiple trees 7′ from DER, 235′ right of centerline, up to 83′ AGL/983′ MSL.
Multiple trees 558′ from DER, 406′ left of centerline, up to 57′ AGL/957′ MSL.

RWY 36: Multiple trees 86′ from DER, 10′ right of centerline, up to 87′ AGL/987′ MSL.
Multiple trees 1282′ from DER, 53′ left of centerline, up to 70′ AGL/970′ MSL.

ENCEE ONE ARRIVAL (RNAV)

ST-263 (FAA)

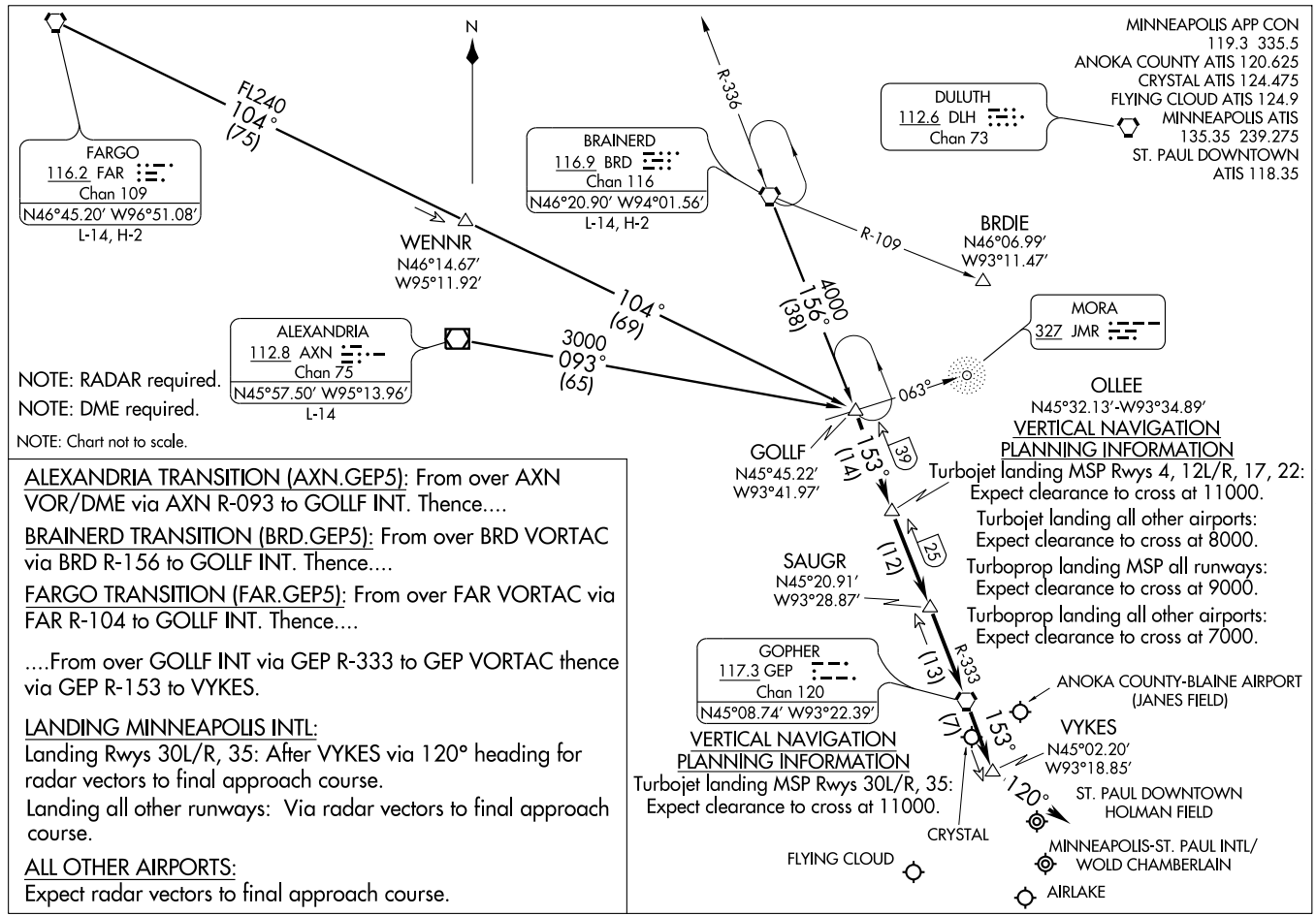
MINNEAPOLIS-ST. PAUL, MINNESOTA



SIOUX FALLS TRANSITION (FSD.ENCEE1)

From over ENCEE WP via 071° track to RIXIE WP, thence via 060° track to GEP VORTAC, thence expect radar vectors to final approach course.

GOPHER FIVE ARRIVAL



NOTE: RADAR required.

NOTE: DME required.

NOTE: Chart not to scale.

VERTICAL NAVIGATION PLANNING INFORMATION

Turbojet landing MSP Rwys 4, 12L/R, 17, 22: Expect clearance to cross at 11000.

Turbojet landing all other airports: Expect clearance to cross at 8000.

Turboprop landing MSP all runways: Expect clearance to cross at 9000.

Turboprop landing all other airports: Expect clearance to cross at 7000.

VERTICAL NAVIGATION PLANNING INFORMATION

Turbojet landing MSP Rwys 30L/R, 35: Expect clearance to cross at 11000.

ALEXANDRIA TRANSITION (AXN.GEP5): From over AXN VOR/DME via AXN R-093 to GOLLF INT. Thence....

BRAINERD TRANSITION (BRD.GEP5): From over BRD VORTAC via BRD R-156 to GOLLF INT. Thence....

FARGO TRANSITION (FAR.GEP5): From over FAR VORTAC via FAR R-104 to GOLLF INT. Thence....

....From over GOLLF INT via GEP R-333 to GEP VORTAC thence via GEP R-153 to VYKES.

LANDING MINNEAPOLIS INTL:

Landing Rwys 30L/R, 35: After VYKES via 120° heading for radar vectors to final approach course.

Landing all other runways: Via radar vectors to final approach course.

ALL OTHER AIRPORTS:

Expect radar vectors to final approach course.

LOC/DME I-ANE	APP CRS	Rwy ldg	5000
111.15	269°	TDZE	910
Chan 48 (Y)		Apt Elev	912

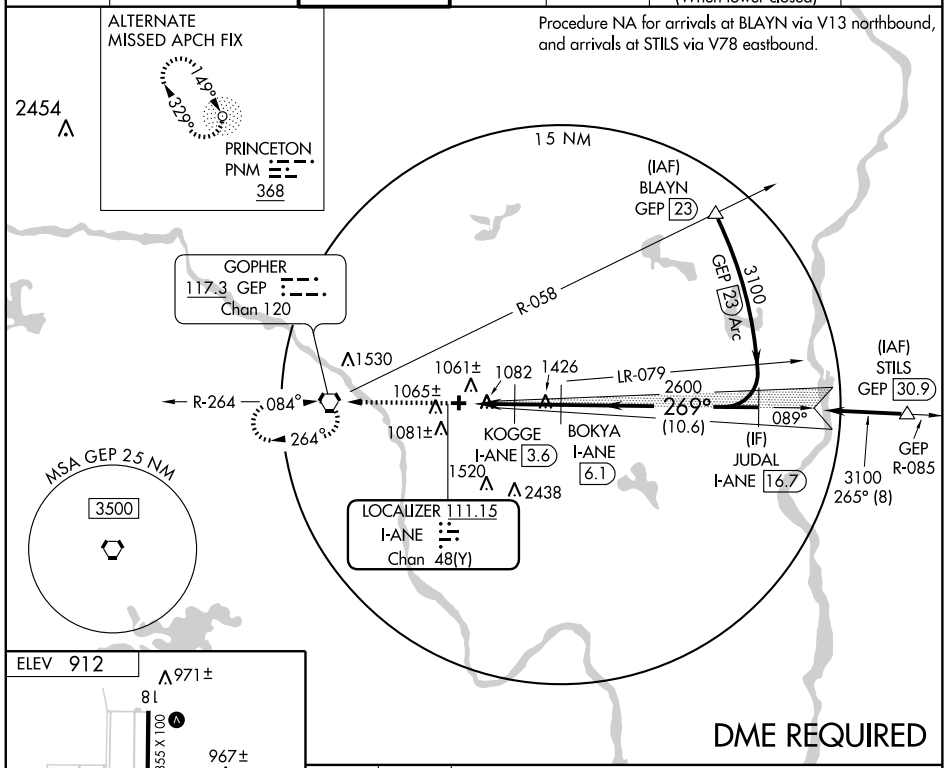
MINNEAPOLIS/ ILS or LOC/DME RWY 27
ANOKA COUNTY-BLAINE AIRPORT (JANES FIELD) (ANE)

If local altimeter setting not received, use Crystal altimeter setting and increase all DAs/MDAs 40 feet.
VDP NA with Crystal altimeter setting.

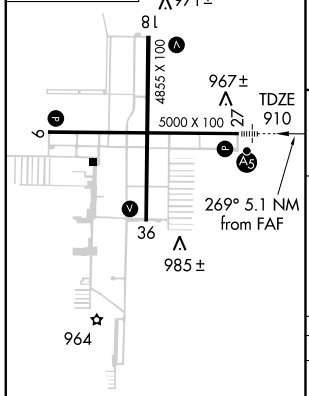
MALSR

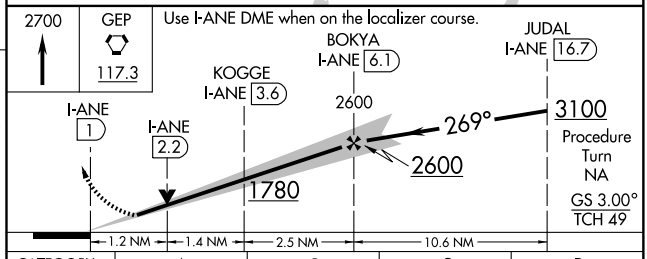
MISSED APPROACH: Climb to 2700 direct GEP VORTAC and hold.

ATIS	MINNEAPOLIS APP CON	ANOKA TOWER★	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
120.625	126.5	132.4 (CTAF) L	121.85	121.3	121.85 (When tower closed)	122.95



DME REQUIRED





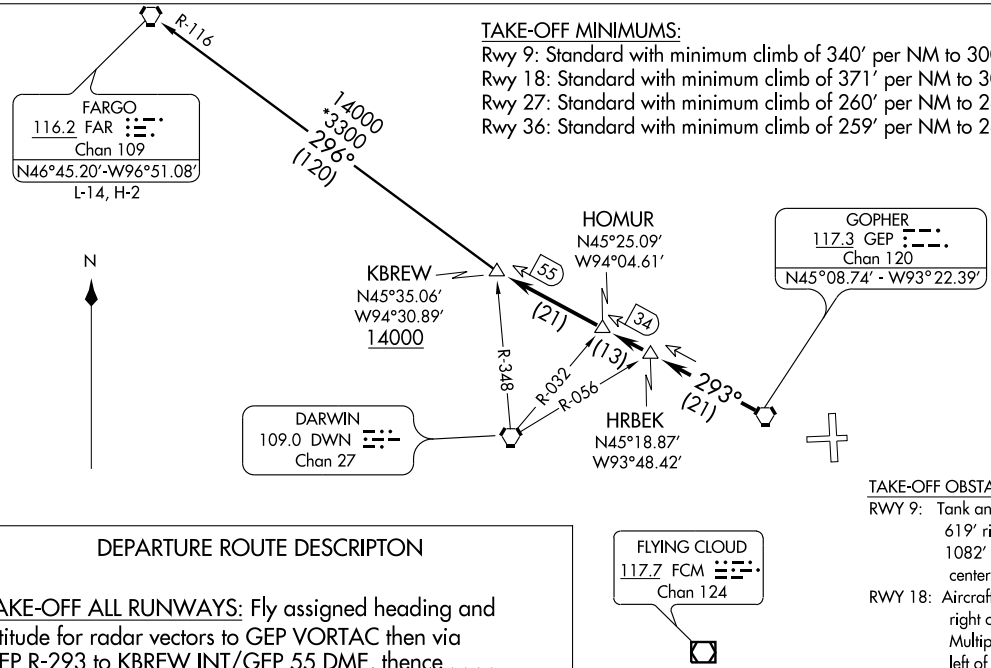
CATEGORY	A	B	C	D
S-ILS 27	1110-½ 200 (200-½)			
S-LOC 27	1340-½ 430 (500-½)		1340-¾ 430 (500-¾)	1340-1 430 (500-1)
CIRCLING	1400-1 488 (500-1)		1400-1½ 488 (500-1½)	1480-2 568 (600-2)

HIRL Rwy 9-27 L
MIRL Rwy 18-36 L
REIL Rwys 9, 18, and 36 L

NC-1. 08 APR 2010 to 06 MAY 2010

TAKE-OFF MINIMUMS:
Rwy 9: Standard with minimum climb of 340′ per NM to 3000.
Rwy 18: Standard with minimum climb of 371′ per NM to 3000.
Rwy 27: Standard with minimum climb of 260′ per NM to 2800.
Rwy 36: Standard with minimum climb of 259′ per NM to 2800.

ATIS
120.625
TOWER ★
132.4
CLNC DEL
121.3
MINNEAPOLIS CLNC DEL
121.85 (when tower closed)
MINNEAPOLIS DEP CON
126.5 357.4



TAKE-OFF OBSTACLE NOTES:

RWY 9: Tank and multiple trees beginning 822′ from DER, 619′ right of centerline, up to 170′ AGL/ 1082′ MSL. Trees 2248′ from DER, 966′ left of centerline, 100′ AGL/1009′ MSL.

RWY 18: Aircraft on taxiway 36′ from DER, 481′ right of centerline up to 21′ AGL/ 928′ MSL. Multiple trees beginning 406′ form DER,287′ left of centerline, up to 49′ AGL/ 959′ MSL. Tower 5016′ from DER 201′ left of centerline 120′ AGL/1078′ MSL.

RWY 27: Multiple trees beginning 7′ from DER, 235′ right of centerline, up to 83′ AGL/ 983′ MSL. Multiple trees beginning 558′ from DER, 406′ left of centerline, up to 57′ AGL/ 957′ MSL.

RWY 36: Multiple trees beginning 86′ from DER, 10′ right of centerline, up to 87′ AGL/987′ MSL. Multiple trees beginning 1282′ from DER, 53′ left of centerline, up to 70′ AGL/970′ MSL.

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to GEP VORTAC then via GEP R-293 to KBREW INT/GEP 55 DME, thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

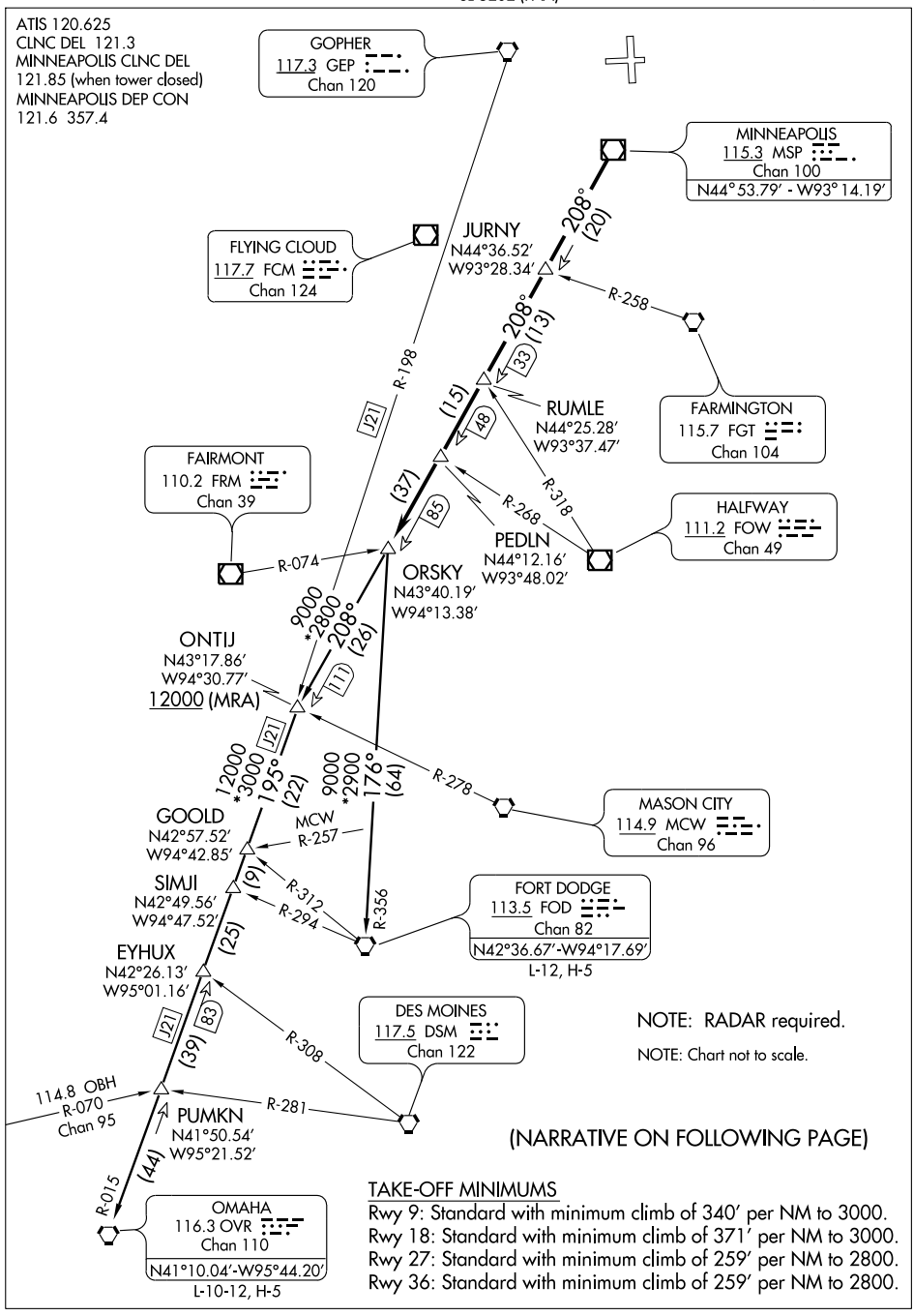
FARGO TRANSITION (KBREW3.FAR):
From over KBREW INT via FAR R-116 to FAR VORTAC.

NOTE: RADAR required.
NOTE: Chart not to scale.

ORSKY FOUR DEPARTURE

SL-5202 (FAA)

MINNEAPOLIS, MINNESOTA



TAKE-OFF MINIMUMS

Rwy 9: Standard with minimum climb of 340′ per NM to 3000.
Rwy 18: Standard with minimum climb of 371′ per NM to 3000.
Rwy 27: Standard with minimum climb of 259′ per NM to 2800.
Rwy 36: Standard with minimum climb of 259′ per NM to 2800.

NC-1, 08 APR 2010 to 06 MAY 2010

ORSKY FOUR DEPARTURE

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-208 to ORSKY INT/MSP 85 DME, thence via transition or assigned route. Expect clearance to filed altitude/flight level 10 minutes after departure.

FORT DODGE TRANSITION (ORSKY4.FOD): From over ORSKY INT via FOD R-356 to FOD VORTAC.

OMAHA TRANSITION (ORSKY4.OVR): From over ORSKY INT via MSP R-208 to ONTIJ INT then via OVR R-015 to OVR VORTAC.

TAKE-OFF OBSTACLE NOTES

RWY 9: Tank and multiple trees beginning 822′ from DER, 619′ right of centerline, up to 170′ AGL/1082′ MSL.
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Multiple trees beginning 406′ from DER, 287′ left of centerline, up to 49′ AGL/959′ MSL.
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Multiple trees beginning 558′ from DER, 406′ left of centerline, up to 57′ AGL/957′ MSL.

RWY 36: Multiple trees beginning 86′ from DER, 10′ right of centerline, up to 87′ AGL/987′ MSL.
Multiple trees beginning 1282′ from DER, 53′ left of centerline, up to 70′ AGL/970′ MSL.

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 82312 W09A	APP CRS 089°	Rwy ldg 5000 TDZE 910 Apt Elev 912

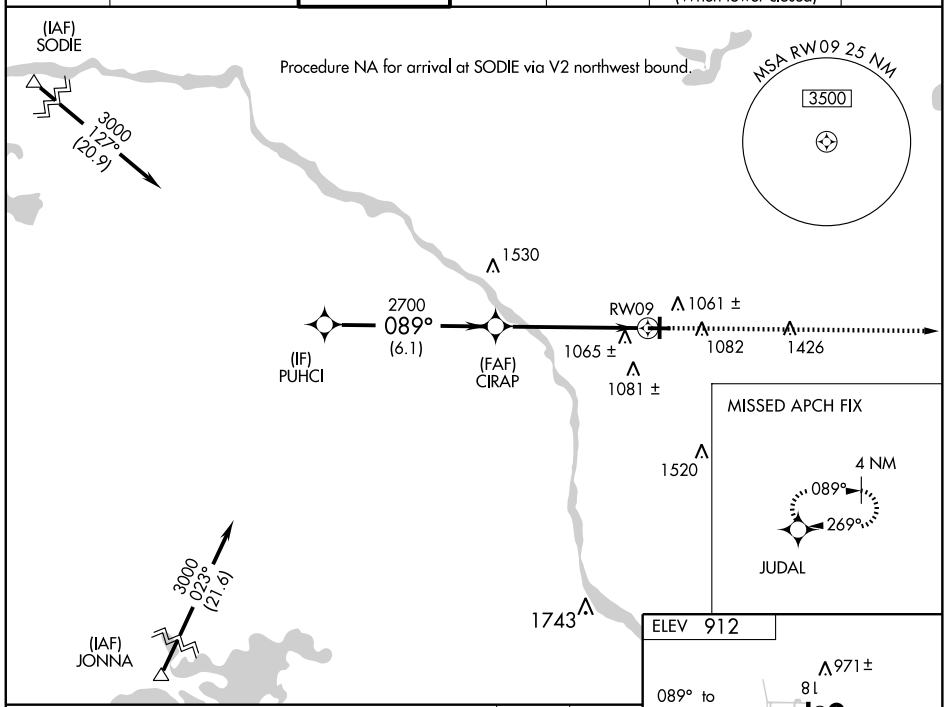
MINNEAPOLIS/ ANOKA COUNTY-BLAINE AIRPORT (JANES FIELD) (ANE)

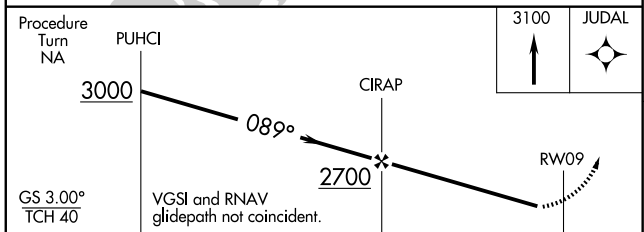
RNAV (GPS) RWY 9

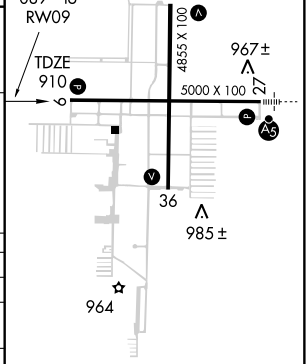
Baro-VNAV NA when using Crystal altimeter setting.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F). DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.
When local altimeter setting not received, use Crystal altimeter setting and increase all DA 25 feet, all MDA 40 feet, increase LNAV/VNAV all Cats visibility ¼ mile, LNAV Cat D ¼ mile.

MISSED APPROACH: Climb to 3100 direct JUDAL and hold.

ATIS	MINNEAPOLIS APP CON	ANOKA TOWER★	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
120.625	126.5	132.4 (CTAF) L	121.85	121.3	121.85 (When tower closed)	122.95







CATEGORY	A	B	C	D
LPV DA	1225-1¼ 315 (400-1¼)			
LNAV/VNAV DA	1352-1½ 442 (500-1½)			
LNAV MDA	1320-1 410 (500-1)		1320-1¼ 410 (500-1¼)	
CIRCLING	1400-1 488 (500-1)		1400-1½ 488 (500-1½)	1480-2 568 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	4855
179°	TDZE	912
	Apt Elev	912

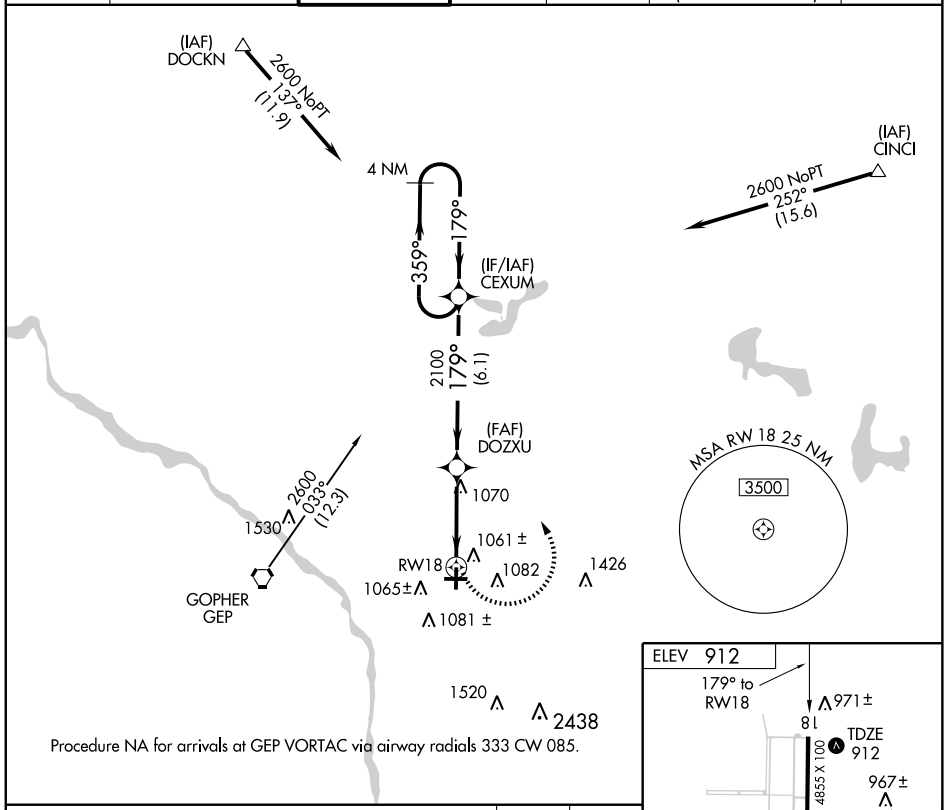
RNAV (GPS) RWY 18

MINNEAPOLIS/ ANOKA COUNTY-BLAINE AIRPORT (JANES FIELD) (ANE)

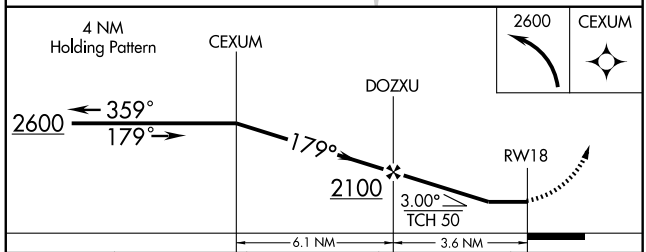
DME/DME RNP-0.3 NA.
Visibility reduction by helicopters NA.
When local altimeter setting not received, use Crystal altimeter setting and increase all MDA 40 feet, increase LNAV Cat C visibility ¼ mile.

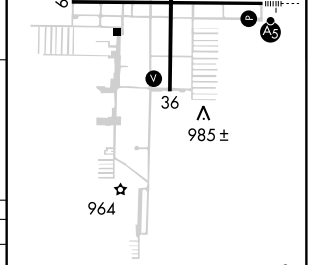
MISSED APPROACH: Climbing left turn to 2600 direct CEXUM and hold.

ATIS	MINNEAPOLIS APP CON	ANOKA TOWER★	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
120.625	126.5	132.4 (CTAF) L	121.85	121.3	121.85 (When tower closed)	122.95



Procedure NA for arrivals at GEP VORTAC via airway radials 333 CW 085.





CATEGORY	A	B	C	D
LNAV MDA	1380-1	468 (500-1)	1380-1¼ 468 (500-1¼)	1380-1½ 468 (500-1½)
CIRCLING	1400-1	488 (500-1)	1400-1½ 488 (500-1½)	1480-2 568 (600-2)

HIRL Rwy 9-27 L
MIRL Rwy 18-36 L
REIL Rwys 9, 18 and 36 L

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 78300 W27A	APP CRS 269°	Rwy ldg 5000 TDZE 910 Apt Elev 912

RNAV (GPS) RWY 27

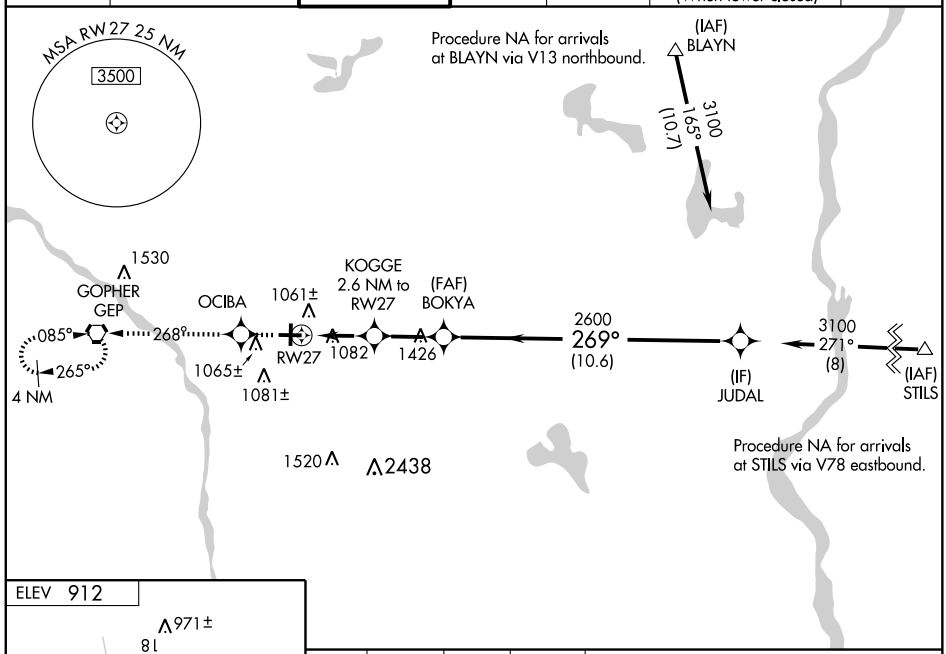
MINNEAPOLIS/ANOKA COUNTY-BLAINE AIRPORT (JANES FIELD) (ANE)

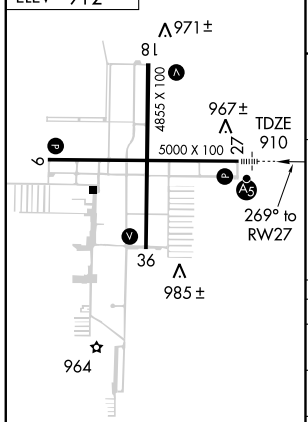
Baro-VNAV and VDP NA when using Crystal altimeter setting.
If local altimeter setting not received, use Crystal altimeter setting and increase all DAs/MDAs 40 feet.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F).
DME/DME RNP-0.3 NA.
For inoperative MALSR, increase LNAV Cat C visibility to 1¼.

MALSR

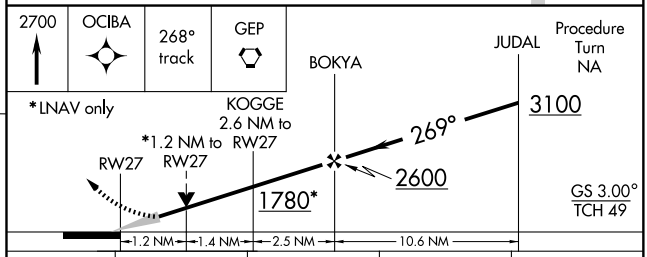
MISSED APPROACH: Climb to 2700 direct OCIBA and via 268° track to GEP VORTAC and hold.

ATIS	MINNEAPOLIS APP CON	ANOKA TOWER*	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
120.625	126.5	132.4 (CTAF) L	121.85	121.3	121.85 (When tower closed)	122.95





HIRL Rwy 9-27 L
MIRL Rwy 18-36 L
REIL Rwys 9, 18, and 36 L



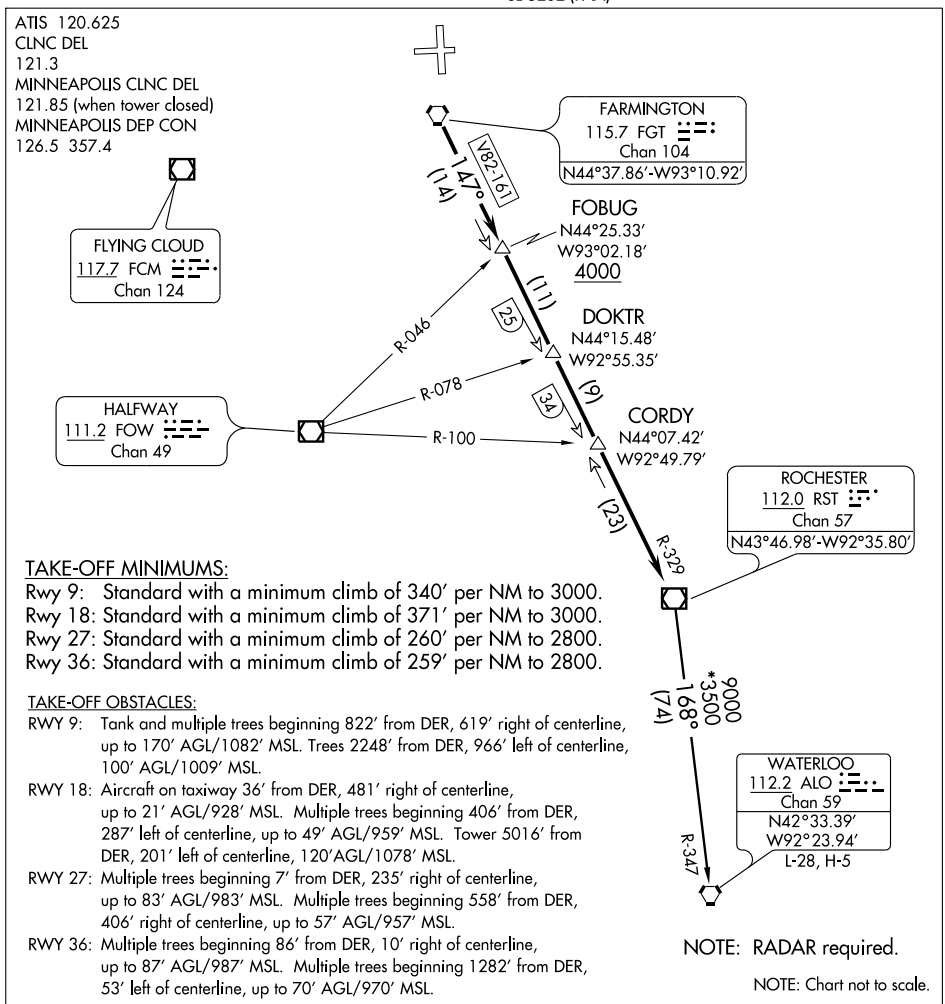
CATEGORY		A	B	C	D
LPV	DA	1160-½ 250 (300-½)			
LNAV/VNAV	DA	1371-1 461 (500-1)			
LNAV	MDA	1340-½ 430 (500-½)			1340-1 430 (500-1)
CIRCLING		1400-1 488 (500-1)		1400-1½ 488 (500-1½)	1480-2 568 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

ROCHESTER FOUR DEPARTURE

SL-5202 (FAA) MINNEAPOLIS, MINNESOTA

ATIS 120.625
CLNC DEL
121.3
MINNEAPOLIS CLNC DEL
121.85 (when tower closed)
MINNEAPOLIS DEP CON
126.5 357.4



TAKE-OFF MINIMUMS:

Rwy 9: Standard with a minimum climb of 340′ per NM to 3000.
Rwy 18: Standard with a minimum climb of 371′ per NM to 3000.
Rwy 27: Standard with a minimum climb of 260′ per NM to 2800.
Rwy 36: Standard with a minimum climb of 259′ per NM to 2800.

TAKE-OFF OBSTACLES:

RWY 9: Tank and multiple trees beginning 822′ from DER, 619′ right of centerline, up to 170′ AGL/1082′ MSL. Trees 2248′ from DER, 966′ left of centerline, 100′ AGL/1009′ MSL.

RWY 18: Aircraft on taxiway 36′ from DER, 481′ right of centerline, up to 21′ AGL/928′ MSL. Multiple trees beginning 406′ from DER, 287′ left of centerline, up to 49′ AGL/959′ MSL. Tower 5016′ from DER, 201′ left of centerline, 120′AGL/1078′ MSL.

RWY 27: Multiple trees beginning 7′ from DER, 235′ right of centerline, up to 83′ AGL/983′ MSL. Multiple trees beginning 558′ from DER, 406′ right of centerline, up to 57′ AGL/957′ MSL.

RWY 36: Multiple trees beginning 86′ from DER, 10′ right of centerline, up to 87′ AGL/987′ MSL. Multiple trees beginning 1282′ from DER, 53′ left of centerline, up to 70′ AGL/970′ MSL.

NOTE: RADAR required.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF ALL RUNWAYS:

Fly assigned heading and altitude for radar vectors to FGT VORTAC then via FGT R-147 and RST R-329 to RST VOR/DME. Cross FOBUG INT/FGT 14 DME at or above 4000, Thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

WATERLOO TRANSITION (RST4.ALO): From over RST VOR/DME via RST R-168 and ALO R-347 to ALO VORTAC.

NC-1, 08 APR 2010 to 06 MAY 2010

TAKE-OFF OBSTACLES:

RWY 9: Tank and multiple trees beginning 822′ from DER, 619′ right of centerline, up to 170′ AGL/1082′ MSL.
Trees 2248′ from DER, 966′ left of centerline, 100′ AGL/1009′ MSL.

RWY 18: Aircraft on taxiway 36′ from DER, 481′ right of centerline, up to 21′ AGL/928′ MSL.
Multiple trees beginning 406′ from DER, 287′ left of centerline, up to 49′ AGL/959′ MSL
Tower 5016′ from DER 201′ left of centerline, 120′ AGL/1078′ MSL..

RWY 27: Multiple trees beginning 7′ from DER, 235′ right of centerline, up to 83′ AGL/983′ MSL.
Multiple trees beginning 558′ from DER, 406′ right of centerline, up to 57′ AGL/957′ MSL.

RWY 36: Multiple trees beginning 86′ from DER, 10′ right of centerline, up to 87′ AGL/987′ MSL.
Multiple trees beginning 1282′ from DER, 53′ left of centerline, up to 70′ AGL/970′ MSL.

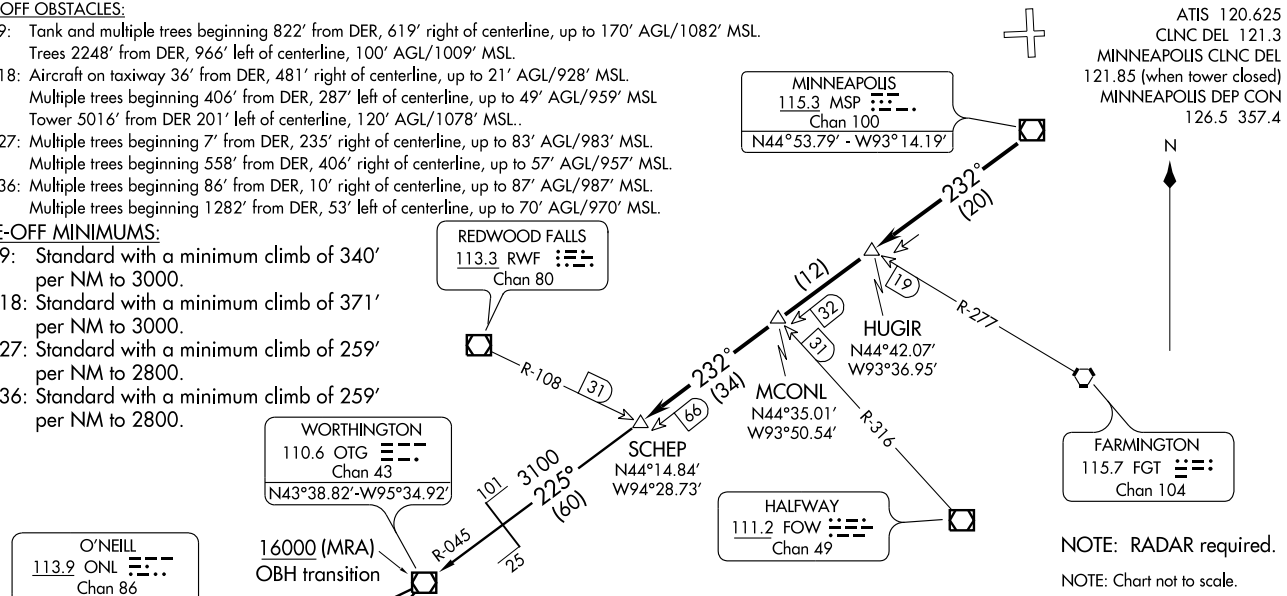
TAKE-OFF MINIMUMS:

Rwy 9: Standard with a minimum climb of 340′ per NM to 3000.

Rwy 18: Standard with a minimum climb of 371′ per NM to 3000.

Rwy 27: Standard with a minimum climb of 259′ per NM to 2800.

Rwy 36: Standard with a minimum climb of 259′ per NM to 2800.



DEPARTURE ROUTE DESCRIPTON

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-232 to SCHEP INT/MSP 66 DME, Thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

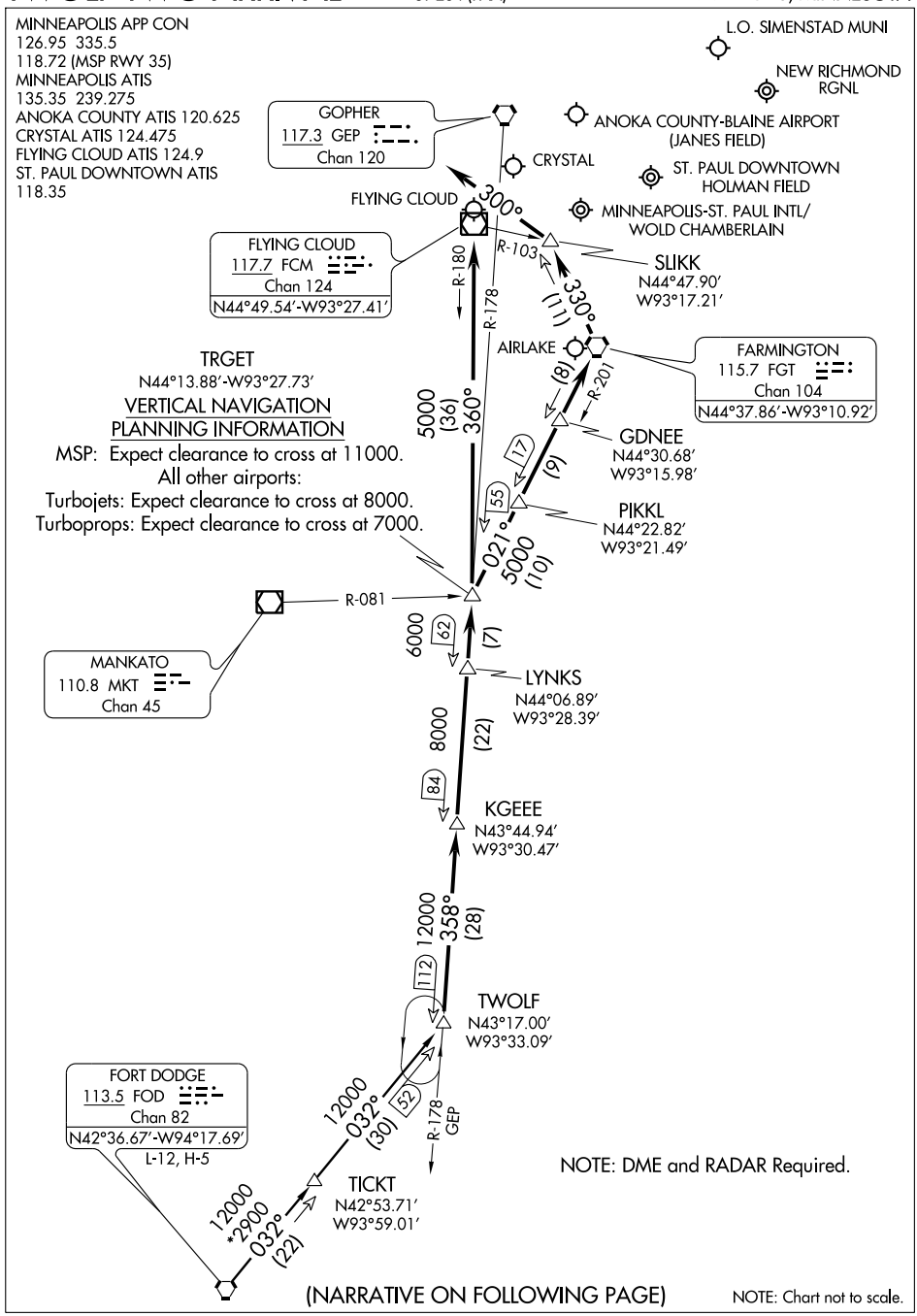
O′NEILL TRANSITION (SCHEP3.ONL): From over SCHEP INT via OTG R-045 to OTG VOR/DME, then via OTG R-236 and ONL R-052 to ONL VORTAC.

WOLBACH TRANSITION (SCHEP3.OBH): From over SCHEP INT via OTG R-045 to OTG VOR/DME then via OTG R-215 and OBH R-034 to OBH VORTAC.

TWOLF TWO ARRIVAL

ST-264 (FAA)

MINNEAPOLIS, MINNESOTA



TWOLF TWO ARRIVAL

ARRIVAL DESCRIPTION

FORT DODGE TRANSITION (FOD.TWOLF2): From over FOD VORTAC via FOD R-032 to TWOLF/FOD 52 DME, Thence . . . .

....From over TWOLF/GEP 112 DME via GEP R-178 to KGEEE/GEP 84 DME, then as depicted to TRGET INT/GEP 55 DME. Thence....

LANDING MSP RWYS 12L/R: From over TRGET INT via FGT R-201 to FGT VORTAC, then via FGT R-330 to SLIKK INT/FGT 11 DME, then via heading 300° for radar vectors to final approach course.

LANDING MSP RWYS 30L/R, 4, 22, 17, 35: From over TRGET INT via FGT R-201 to FGT VORTAC, then via radar vectors to final approach course.

LANDING ALL OTHER AIRPORTS: From over TRGET INT via FCM R-180 to FCM VOR/DME, then expect radar vectors to final approach course.

NC-1. 08 APR 2010 to 06 MAY 2010

VORTAC GEP 117.3 Chan 120	APP CRS 264°	Rwy ldg 5000 TDZE 910 Apt Elev 912

VOR/DME RWY 27

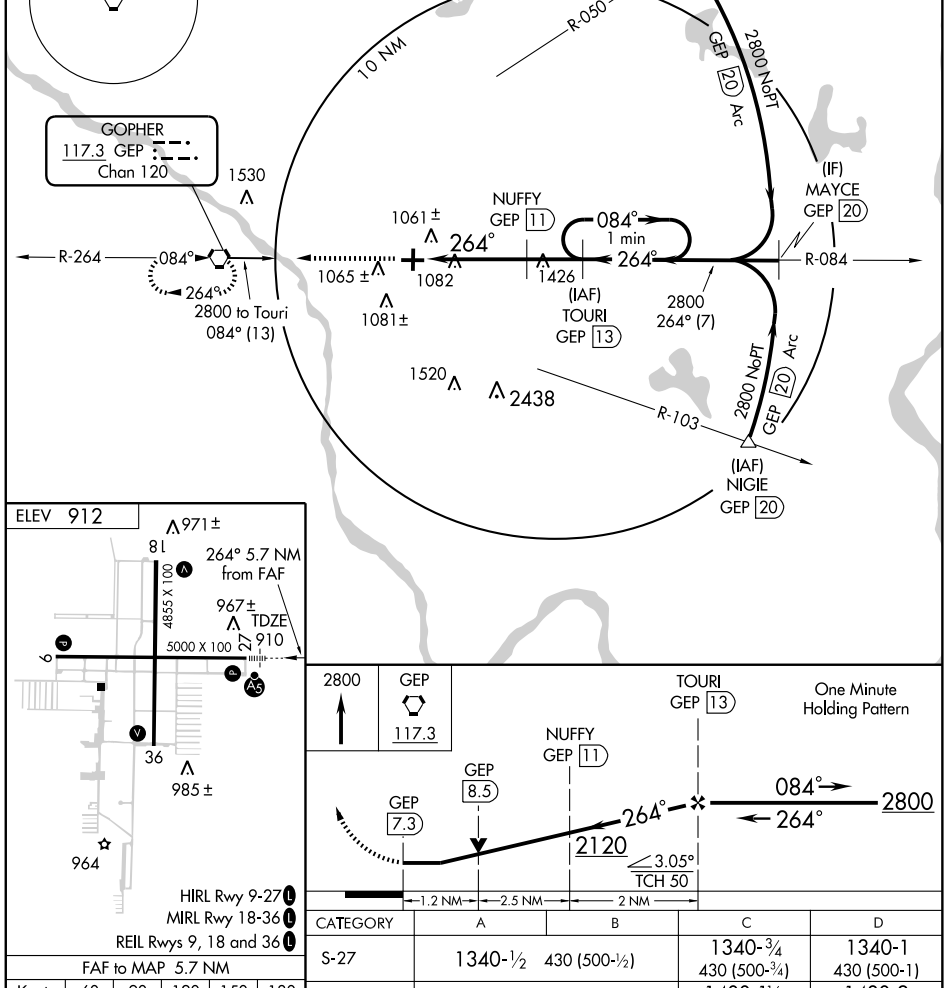
MINNEAPOLIS/
ANOKA COUNTY-BLAINE AIRPORT (JANES FIELD) (ANE)

DME required.
When local altimeter setting not received, use Crystal altimeter setting and increase all MDA 40 feet.
VDP NA when using Crystal altimeter setting.

MALSR

MISSED APPROACH: Climb to 2800 direct GEP VORTAC and hold.

ATIS	MINNEAPOLIS APP CON	ANOKA TOWER★	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
120.625	126.5	132.4 (CTAF) L	121.85	121.3	121.85 (When tower closed)	122.95



FAF to MAP 5.7 NM					
Knots	60	90	120	150	180
Min:Sec	5:42	3:48	2:51	2:17	1:54

CATEGORY	A	B	C	D
S-27	1340-½ 430 (500-½)		1340-¾ 430 (500-¾)	1340-1 430 (500-1)
CIRCLING	1400-1 488 (500-1)		1400-1½ 488 (500-1½)	1480-2 568 (600-2)

VORTAC GEP 117.3 Chan 120	APP CRS 084°	Rwy ldg 5000 TDZE 910 Apt Elev 912

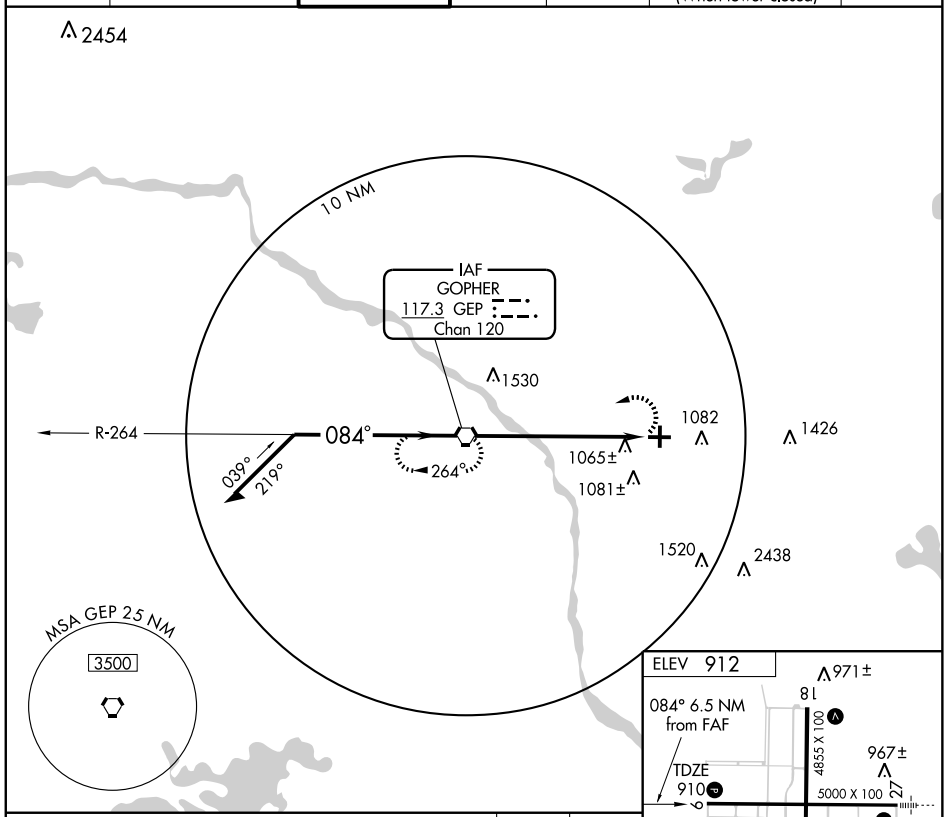
MINNEAPOLIS/
ANOKA COUNTY-BLAINE AIRPORT (JANES FIELD) (ANE)

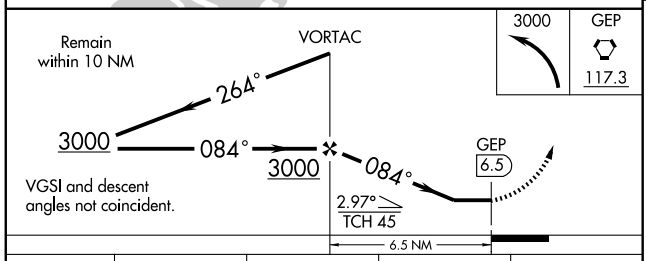
VOR RWY 9

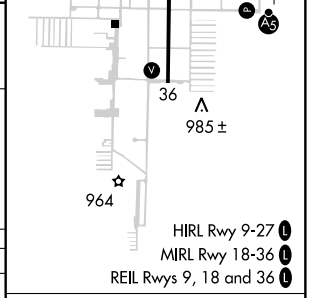
Visibility reduction by helicopters NA.
When local altimeter setting not received, use Crystal altimeter setting and increase all MDA 40 feet and S-9 Cat C visibility ¼ mile.

MISSED APPROACH: Climbing left turn to 3000 direct to GEP VORTAC and hold.

ATIS	MINNEAPOLIS APP CON	ANOKA TOWER*	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
120.625	126.5	132.4 (CTAF) L	121.85	121.3	121.85 (When tower closed)	122.95







CATEGORY	A	B	C	D
S-9	1380-1 470 (500-1)		1380-1¼ 470 (500-1¼)	1380-1½ 470 (500-1½)
CIRCLING	1400-1 488 (500-1)		1400-1½ 488 (500-1½)	1480-2 568 (600-2)

FAF to MAP 6.5 NM

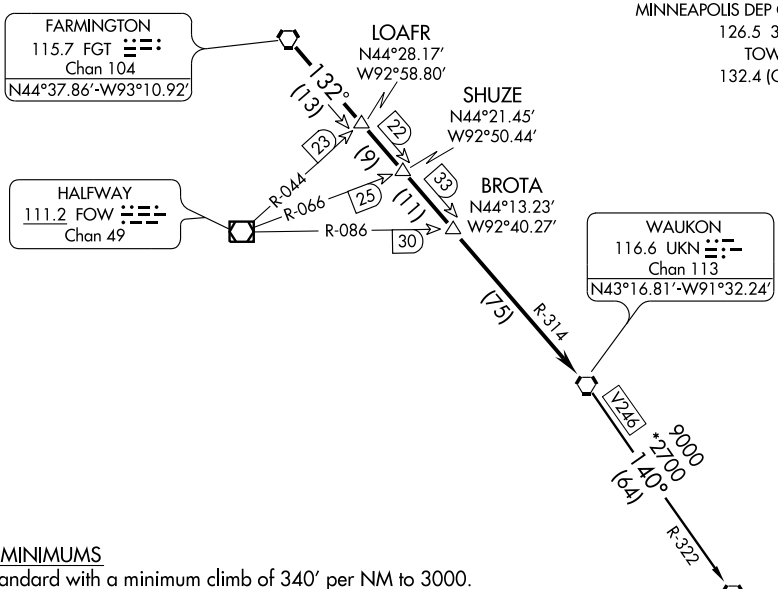
Knots	60	90	120	150	180
Min:Sec	6:30	4:20	3:15	2:36	2:10

NC-1. 08 APR 2010 to 06 MAY 2010

WAUKON THREE DEPARTURE SL-5202 (FAA)

MINNEAPOLIS, MINNESOTA

ATIS 120.625
CLNC DEL
121.3
MINNEAPOLIS CLNC DEL
121.85 (when tower closed)
MINNEAPOLIS DEP CON
126.5 357.4
TOWER★
132.4 (CTAF)



TAKE-OFF MINIMUMS

Rwy 9: Standard with a minimum climb of 340′ per NM to 3000.
Rwy 18: Standard with a minimum climb of 371′ per NM to 3000.
Rwy 27: Standard with a minimum climb of 260′ per NM to 2800.
Rwy 36: Standard with a minimum climb of 259′ per NM to 2800.

TAKE-OFF OBSTACLE NOTES

RWY 9: Tank and multiple trees beginning 822′ from DER, 619′ right of centerline, up to 170′ AGL/1082′ MSL. Trees 2248′ from DER, 966′ left of centerline, 100′ AGL/1009′ MSL.

RWY 18: Aircraft on taxiway 36′ from DER, 481′ right of centerline, up to 21′ AGL/928′ MSL. Multiple trees beginning 406′ from DER, 287′ left of centerline, up to 49′ AGL/959′ MSL. Tower 5016′ from DER, 201′ left of centerline, 120′ AGL/1078′ MSL.

RWY 27: Multiple trees beginning 7′ from DER, 235′ right of centerline, up to 83′ AGL/983′ MSL. Multiple trees beginning 558′ from DER, 406′ left of centerline, up to 57′ AGL/957′ MSL.

RWY 36: Multiple trees beginning 86′ from DER, 10′ right of centerline, up to 87′ AGL/987′ MSL. Multiple trees beginning 1282′ from DER, 53′ left of centerline, up to 70′ AGL/970′ MSL.

NOTE: RADAR required.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to FGT VORTAC then via FGT R-132 and UKN R-314 to UKN VORTAC, thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

DUBUQUE TRANSITION (UKN3.DBQ): From over UKN VORTAC via UKN R-140 and DBQ R-322 to DBQ VORTAC.

NC-1, 08 APR 2010 to 06 MAY 2010

ATIS 120.625
CLNC DEL
121.3
MINNEAPOLIS CLNC DEL
121.85 (when tower closed)
MINNEAPOLIS DEP CON
126.5 357.4

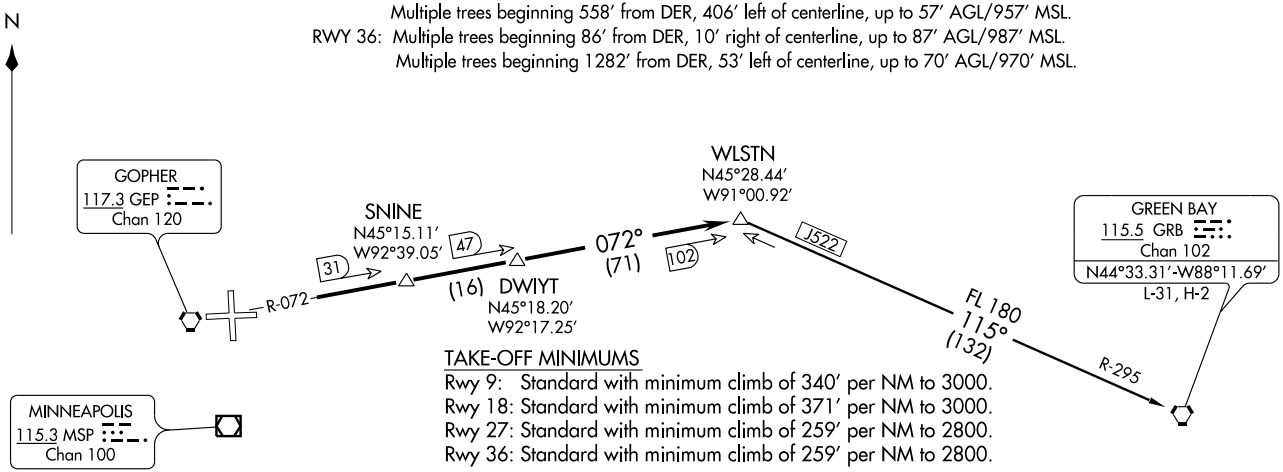
TAKE-OFF OBSTACLE NOTES

RWY 9: Tank and multiple trees beginning 822′ from DER, 619′ right of centerline, up to 170′ AGL/1082′ MSL.
Trees 2248′ from DER, 966′ left of centerline, 100′ AGL/1009′ MSL.

RWY 18: Aircraft on taxiway 36′ from DER, 481′ right of centerline, up to 21′ AGL/928′ MSL.
Multiple trees beginning 406′ from DER, 287′ left of centerline, up to 49′ AGL/959′ MSL.
Tower 5016′ from DER, 201′ left of centerline, 120′ AGL/1078′ MSL.

RWY 27: Multiple trees beginning 7′ from DER, 235′ right of centerline, up to 83′ AGL/983′ MSL.
Multiple trees beginning 558′ from DER, 406′ left of centerline, up to 57′ AGL/957′ MSL.

RWY 36: Multiple trees beginning 86′ from DER, 10′ right of centerline, up to 87′ AGL/987′ MSL.
Multiple trees beginning 1282′ from DER, 53′ left of centerline, up to 70′ AGL/970′ MSL.



TAKE-OFF MINIMUMS

Rwy 9: Standard with minimum climb of 340′ per NM to 3000.
Rwy 18: Standard with minimum climb of 371′ per NM to 3000.
Rwy 27: Standard with minimum climb of 259′ per NM to 2800.
Rwy 36: Standard with minimum climb of 259′ per NM to 2800.

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to GEP R-072 to WLSTN/GEP 102 DME, thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

GREEN BAY TRANSITION (WLSTN3.GRB): From over WLSTN via GRB R-295 to GRB VORTAC.

NOTE: RADAR and DME required.

NOTE: Chart not to scale.

(WLSTN3.WLSTN) 10042

WLSTN THREE DEPARTURE

MINNEAPOLIS/ANOKA COUNTY-BLAINE AIRPORT (JANES FIELD) (ANE)

SL-5202 (FAA)

MINNEAPOLIS, MINNESOTA

ATIS 120.625
CLNC DEL
121.3
MINNEAPOLIS CLNC DEL
121.85 (when tower closed)
MINNEAPOLIS DEP CON
126.5 357.4

TAKE-OFF OBSTACLES:

RWY 9: Tank and multiple trees beginning 822′ from DER, 619′ right of centerline, up to 170′ AGL/1082′ MSL. Trees 2248′ from DER, 966′ left of centerline, 100′ AGL/1009′ MSL.

RWY 18: Aircraft on taxiway 36′ from DER, 481′ right of centerline, up to 21′ AGL/928′ MSL. Multiple trees beginning 406′ from DER, 287′ left of centerline, up to 49′ AGL/959′ MSL. Tower 5016′ from DER, 201′ left of centerline, 120′ AGL/1078′ MSL.

RWY 27: Multiple trees beginning 7′ from DER, 235′ right of centerline, up to 83′ AGL/983′ MSL. Multiple trees beginning 558′ from DER, 406′ right of centerline, up to 57′ AGL/957′ MSL.

RWY 36: Multiple trees beginning 86′ from DER, 10′ right of centerline, up to 87′ AGL/987′ MSL. Multiple trees beginning 1282′ from DER, 53′ left of centerline, up to 70′ AGL/970′ MSL.

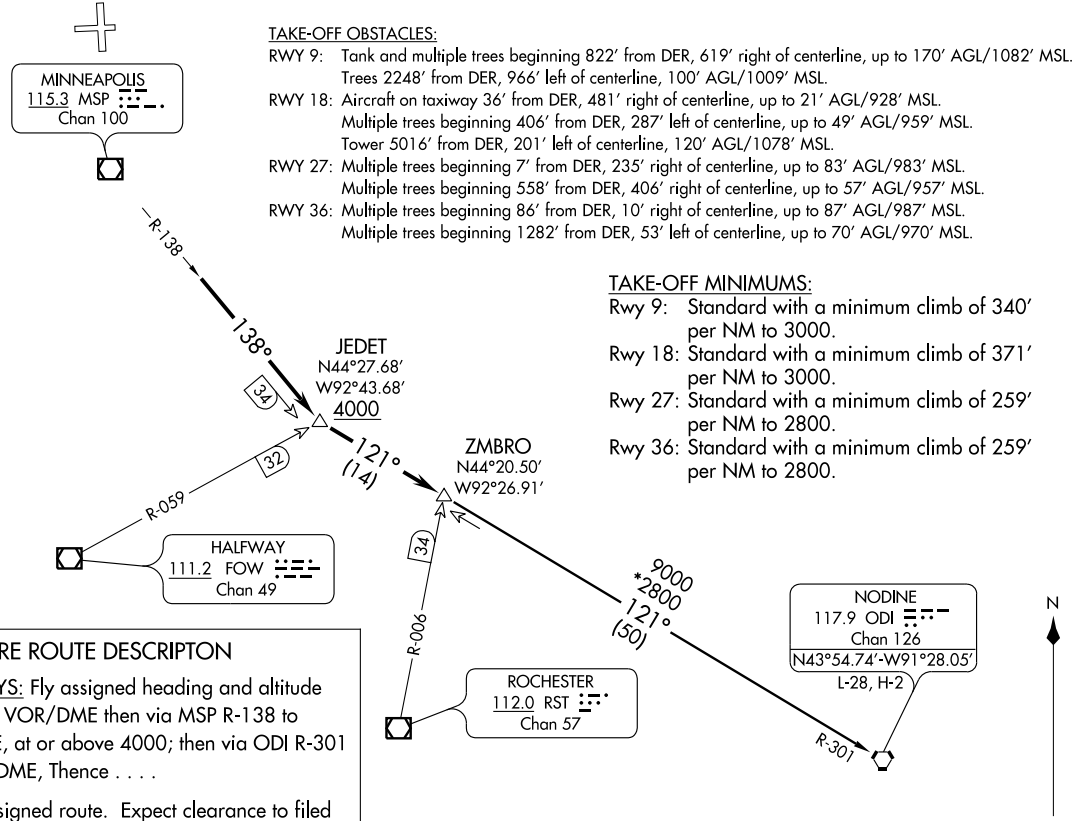
TAKE-OFF MINIMUMS:

Rwy 9: Standard with a minimum climb of 340′ per NM to 3000.

Rwy 18: Standard with a minimum climb of 371′ per NM to 3000.

Rwy 27: Standard with a minimum climb of 259′ per NM to 2800.

Rwy 36: Standard with a minimum climb of 259′ per NM to 2800.



NOTE: RADAR Required

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-138 to JEDET INT/MSP 34 DME, at or above 4000; then via ODI R-301 to ZMBRO INT/ODI 50 DME, Thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

NODINE TRANSITION (ZMBRO3.ODI): From over ZMBRO INT via ODI R-301 to ODI VORTAC.

(ZMBRO3.ZMBRO) 10042 MINNEAPOLIS/ANOKA COUNTY-BLAINE AIRPORT (JANES FIELD) (ANE)

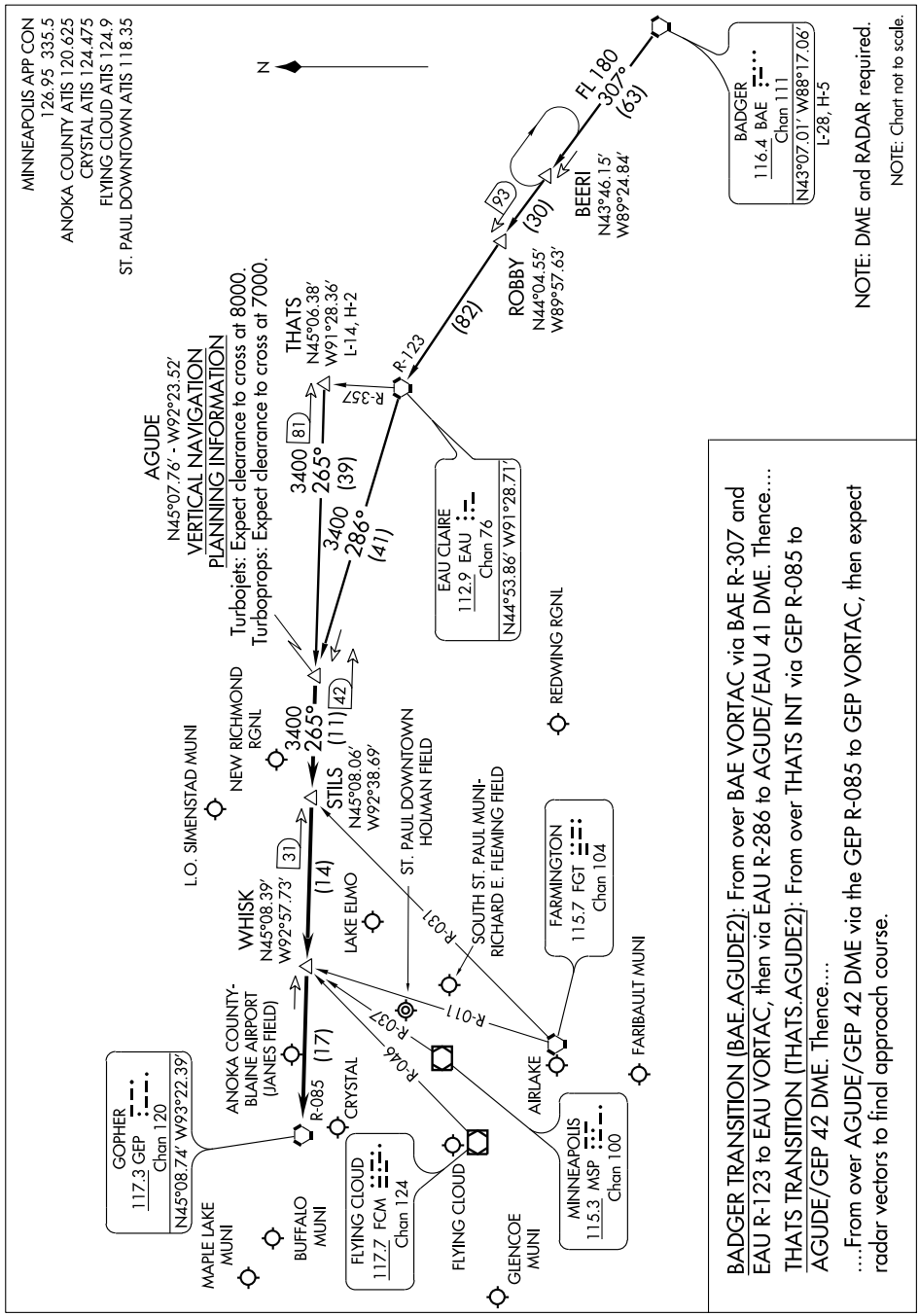
ZMBRO THREE DEPARTURE

SL-5202 (FAA) MINNEAPOLIS, MINNESOTA

AGUDE TWO ARRIVAL

ST-263 (FAA)

MINNEAPOLIS-ST. PAUL, MINNESOTA



BADGER TRANSITION (BAE.AGUDE2): From over BAE VORTAC via BAE R-307 and EAU R-123 to EAU VORTAC, then via EAU R-286 to AGUDE/EAU 41 DME. Thence....

THATS TRANSITION (THATS.AGUDE2): From over THATS INT via GEP R-085 to AGUDE/GEP 42 DME. Thence....

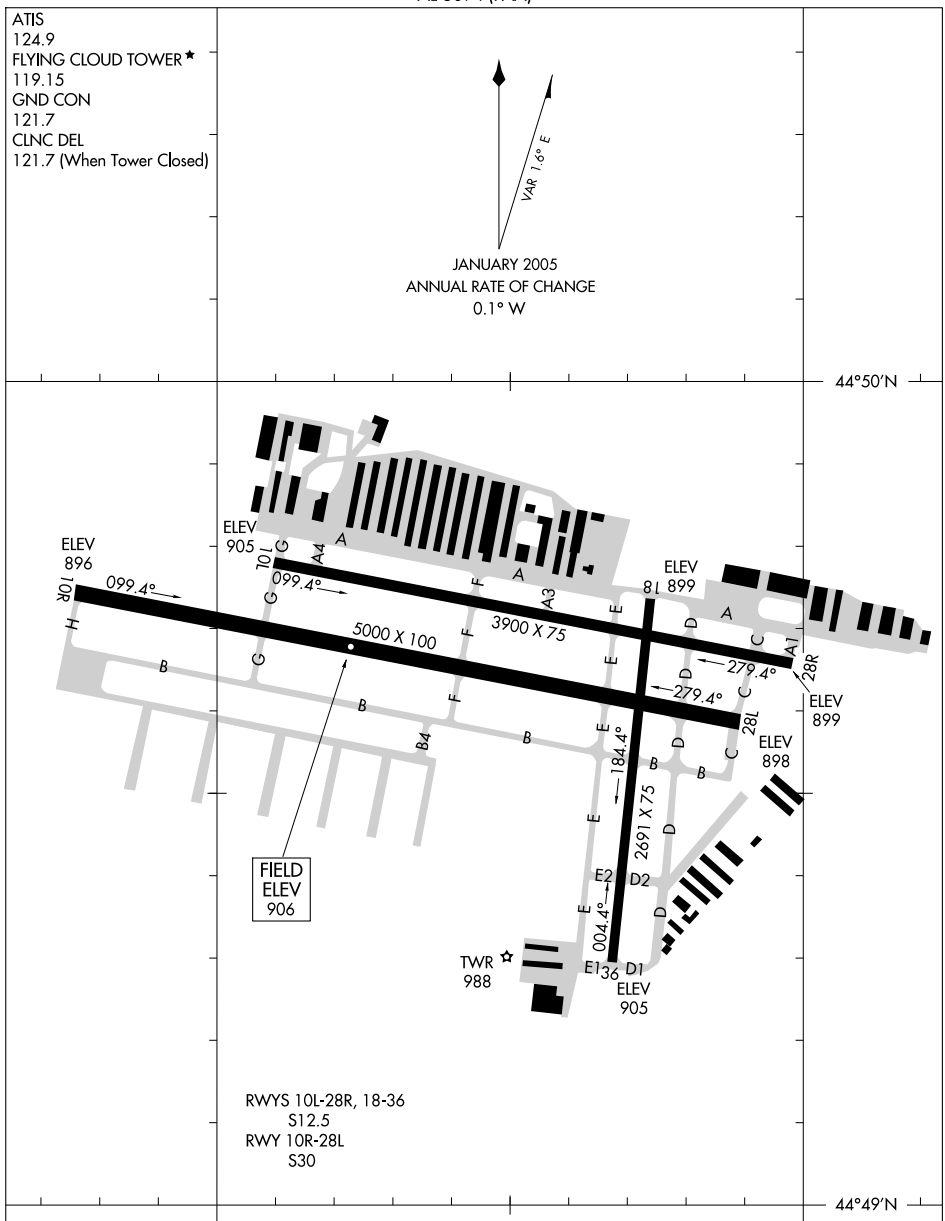
....From over AGUDE/GEP 42 DME via the GEP R-085 to GEP VORTAC, then expect radar vectors to final approach course.

AIRPORT DIAGRAM

AL-5094 (FAA)

MINNEAPOLIS/ FLYING CLOUD (FCM)
MINNEAPOLIS, MINNESOTA

ATIS
124.9
FLYING CLOUD TOWER ★
119.15
GND CON
121.7
CLNC DEL
121.7 (When Tower Closed)



CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

NC-1. 08 APR 2010 to 06 MAY 2010

COPTER ILS or LOC RWY 10R

MINNEAPOLIS/ FLYING CLOUD (FCM)

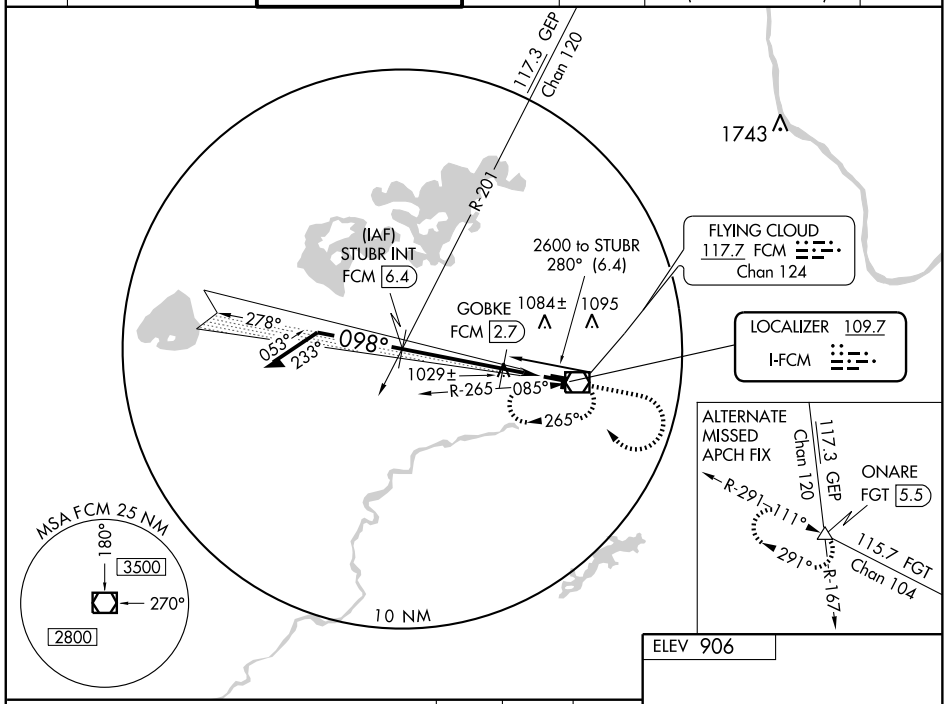
LOC I-FCM	APP CRS	Rwy ldg / TDZE / Apt Elev
109.7	098°	5000 / 905 / 906

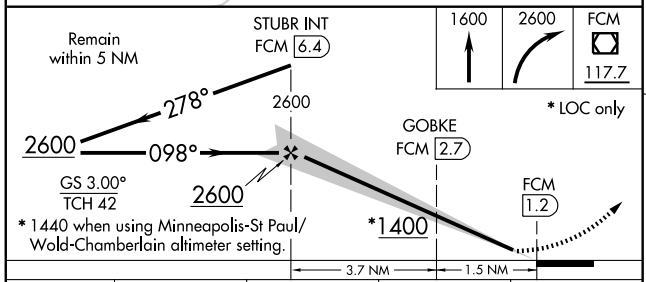
For inoperative MALSR increase visibility to ½ mile. When local altimeter setting not received, use Minneapolis-St Paul Intl-Wold Chamberlain altimeter setting and increase DA 34 feet and all MDA 40 feet.

MALSR

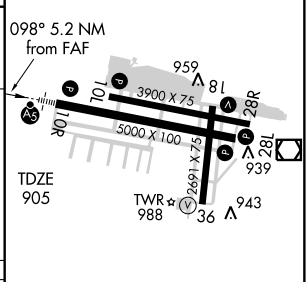
MISSED APPROACH: Climb to 1600 then climbing right turn to 2600 direct FCM VOR/DME and hold, continue climb-in-hold to 2600.

ATIS	MINNEAPOLIS APP CON	FLYING CLOUD TOWER *	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
124.9	134.7 284.7	119.15 (CTAF) L	121.7	121.7	121.7 (When tower closed)	122.95





* 1440 when using Minneapolis-St Paul/ Wold-Chamberlain altimeter setting.



CATEGORY	COPTER	B	C	D
H-ILS 10R	1105- ¼ 200 (200- ¼)	NA		
H-LOC 10R	1400- ¼ 495 (500- ¼)	NA		
GOBKE FIX MINIMUMS				
H-LOC 10R	1280- ¼ 375 (400- ¼)	NA		

REIL Rwys 18, 28L, and 36 L
MIRL Rwys 10L-28R and 18-36 L
HIRL Rwy 10R-28L L

FAF to MAP 5.2 NM

Knots	45	60	75	90	105
Min:Sec	6:56	5:12	4:10	3:28	2:58

NC-1. 08 APR 2010 to 06 MAY 2010

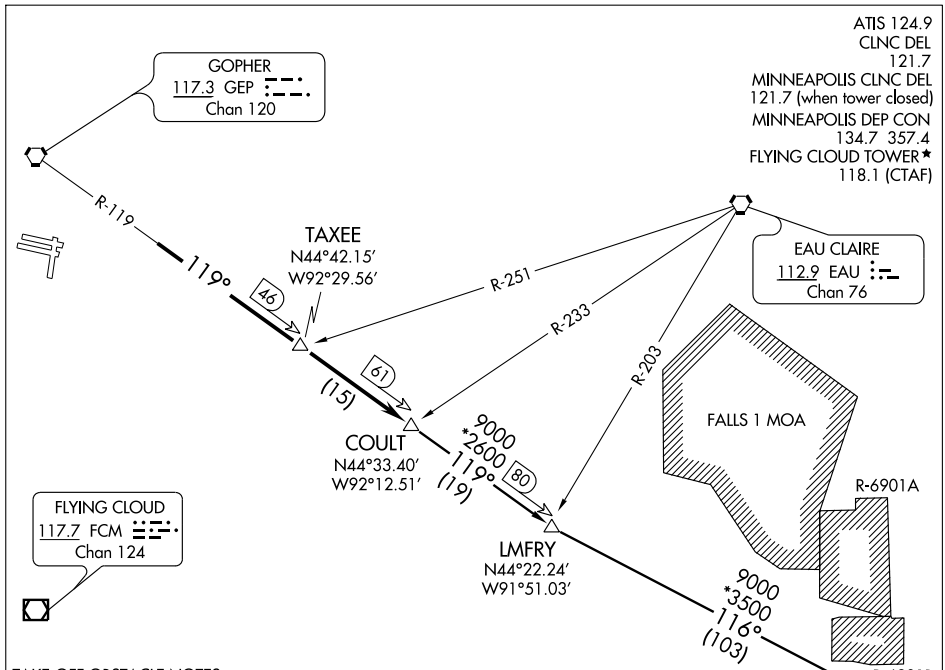
(COULT3.COULT) 10098

COULT THREE DEPARTURE

SL-5094 (FAA)

MINNEAPOLIS/ FLYING CLOUD (FCM)
MINNEAPOLIS, MINNESOTA

ATIS 124.9
CLNC DEL
121.7
MINNEAPOLIS CLNC DEL
121.7 (when tower closed)
MINNEAPOLIS DEP CON
134.7 357.4
FLYING CLOUD TOWER★
118.1 (CTAF)



TAKE-OFF OBSTACLE NOTES

RWY 10L: Multiple antennas on hangars beginning 270′ from DER, 330′ left of centerline, up to 26′ AGL/932′ MSL. Tree 682′ from DER, 668′ right of centerline, 26′ AGL/932′ MSL.

RWY 10R: Multiple OL on poles beginning 287′ from DER, 345′ right of centerline, up to 36′ AGL/939′ MSL. Hangar 150′ from DER, 422′ right of centerline, 21′ AGL/920′ MSL. Antenna on building 536′ from DER, 263′ right of centerline, 14′ AGL/913′ MSL.

RWY 18: Multiple trees beginning 338′ from DER, 166′ left of centerline, up to 62′ AGL/961′ MSL. OL on fence 176′ from DER, 127′ left of centerline, 10′ AGL/910′ MSL. Vehicle and road 198′ from DER, 196′ left of centerline, 15′ AGL/918′ MSL. Floodlight 148′ from DER, 374′ right of centerline, 38′ AGL/938′ MSL. OL on hangar 282′ from DER, 317′ right of centerline, 37′ AGL/937′ MSL.

RWY 28R: Hangar 259′ from DER. 355′ right of centerline, 18′ AGL/931′ MSL.

RWY 36: Wind vane 923′ from DER, 404′ left of centerline, 61′ AGL/960′ MSL. Vent on building 943′ from DER, 295′ left of centerline, 44′ AGL/943′ MSL. Pole 714′ from DER, 351′ left of centerline, 33′ AGL/932′ MSL. Multiple trees beginning 504′ from DER, 324′ right of centerline, up to 67′ AGL/966′ MSL.

TAKE-OFF MINIMUMS

Rwy 10L, 28R, 10R, 28L, 18, 36: Standard.

NOTE: RADAR required.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to intercept GEP R-119 to COULT INT/GEP 61 DME, thence . . . .
. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

DELLS TRANSITION (COULT3.DLL): From over COULT INT via GEP R-119 to LMFRY, then via DLL R-296 to DLL VORTAC.

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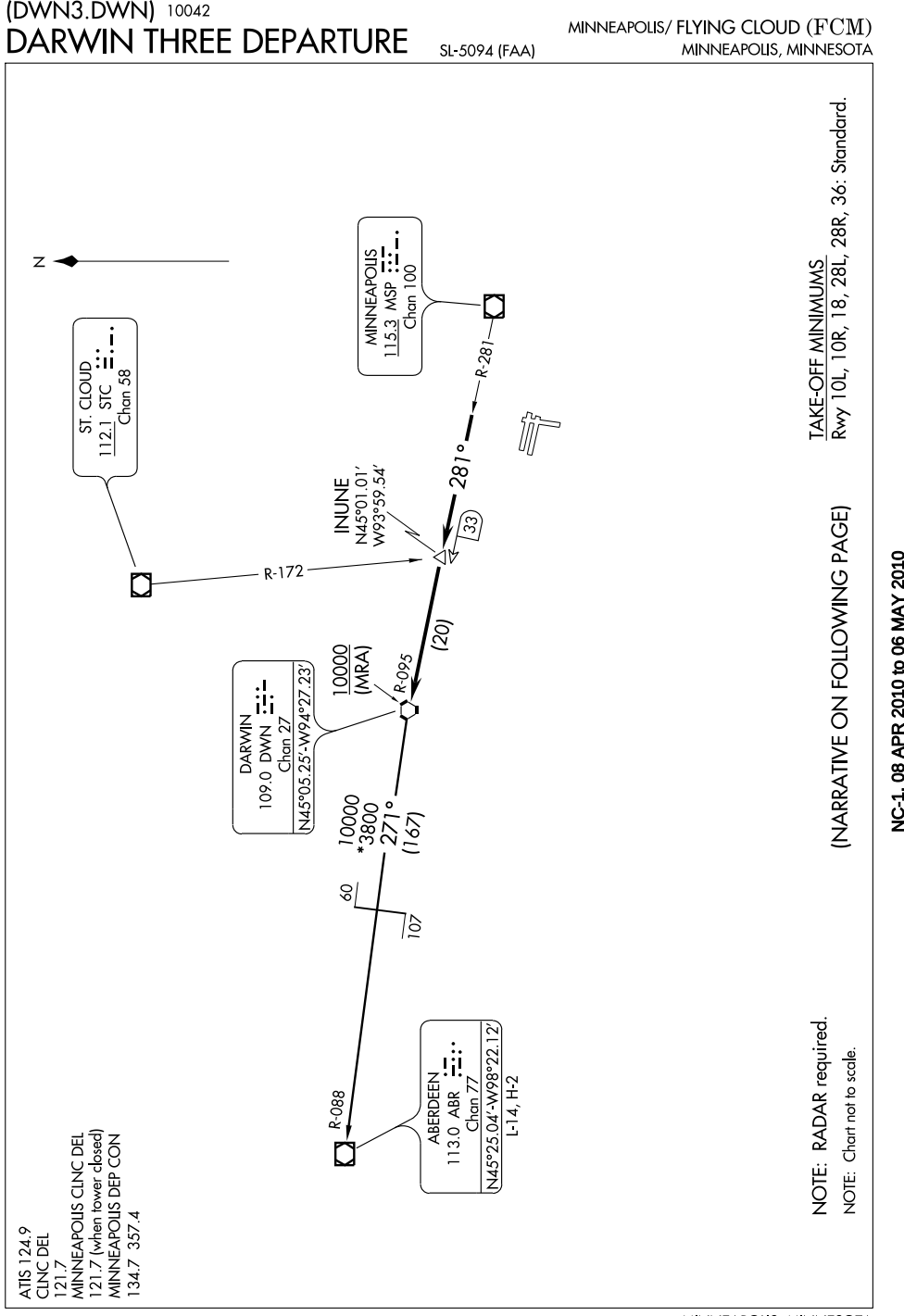
DARWIN THREE DEPARTURE

SL-5094 (FAA)

MINNEAPOLIS/ FLYING CLOUD (FCM)
MINNEAPOLIS, MINNESOTA



DEPARTURE ROUTE DESCRIPTON

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-281 and DWN R-095 to DWN VORTAC, thence . . . .

. . . . via transition or assigned route. Expectclearance to filed altitude/flight level 10 (ten) minutes after departure.

ABERDEEN TRANSITION (DWN3.ABR): From over DWN VORTAC via DWN R-271 and ABR R-088 to ABR VOR/DME.

TAKE-OFF OBSTACLE NOTES

RWY 10L: Multiple antennas on hangars beginning 270′ from DER, 330′ left of centerline, up to 26′ AGL/932′ MSL.
Tree 682′ from DER, 668′ right of centerline, 26′ AGL/932′ MSL.

RWY 10R: Multiple OL on poles beginning 287′ from DER, 345′ right of centerline, up to 36′ AGL/939′ MSL.
Hangar 150′ from DER, 422′ right of centerline, 21′ AGL/920′ MSL.
Antenna on building 536′ from DER, 263′ right of centerline, 14′ AGL/913′ MSL.

RWY 18: Multiple trees beginning 338′ from DER, 166′ left of centerline, up to 62′ AGL/961′ MSL.
OL on fence 176′ from DER, 127′ left of centerline, 10′ AGL/910′ MSL.
Vehicle and road 198′ from DER, 196′ left of centerline, 15′ AGL/918′ MSL.
Floodlight 148′ from DER, 374′ right of centerline, 38′ AGL/938′ MSL.
OL on hangar 282′ from DER, 317′ right of centerline, 37′ AGL/937′ MSL.

RWY 28R: Hanger 259′ from DER, 355′ right of centerline, 18′ AGL/931′ MSL.

RWY 36: Wind vane 923′ from DER, 404′ left of centerline, 61′ AGL/960′ MSL.
Vent on building 943′ from DER, 295′ left of centerline, 44′ AGL/943′ MSL.
Pole 714′ from DER, 351′ left of centerline, 33′ AGL/932′ MSL.
Multiple trees beginning 504′ from DER, 324′ right of centerline, up to 67′ AGL/966′ MSL.

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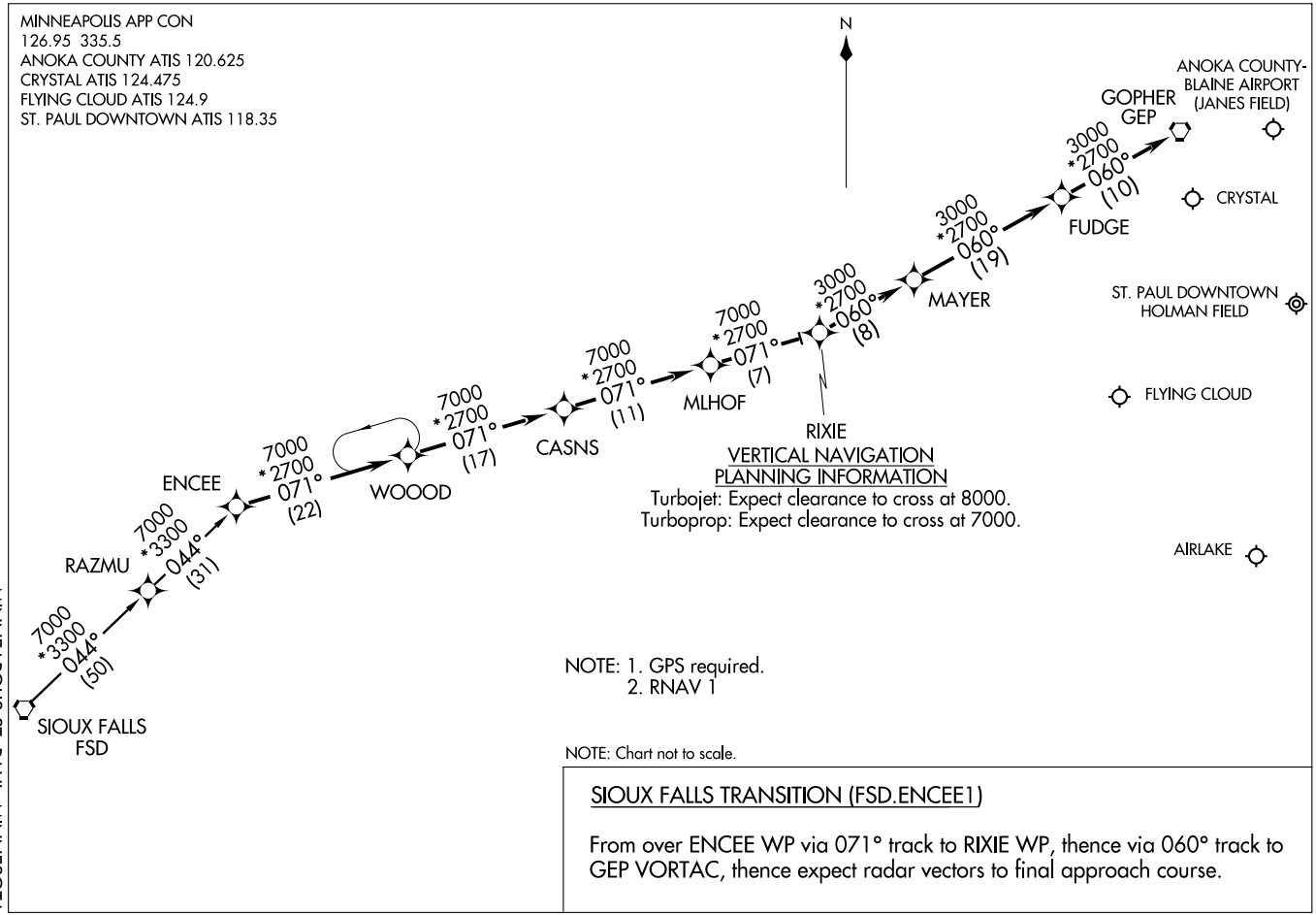
ENCEE ONE ARRIVAL (RNAV)

ST-263 (FAA)

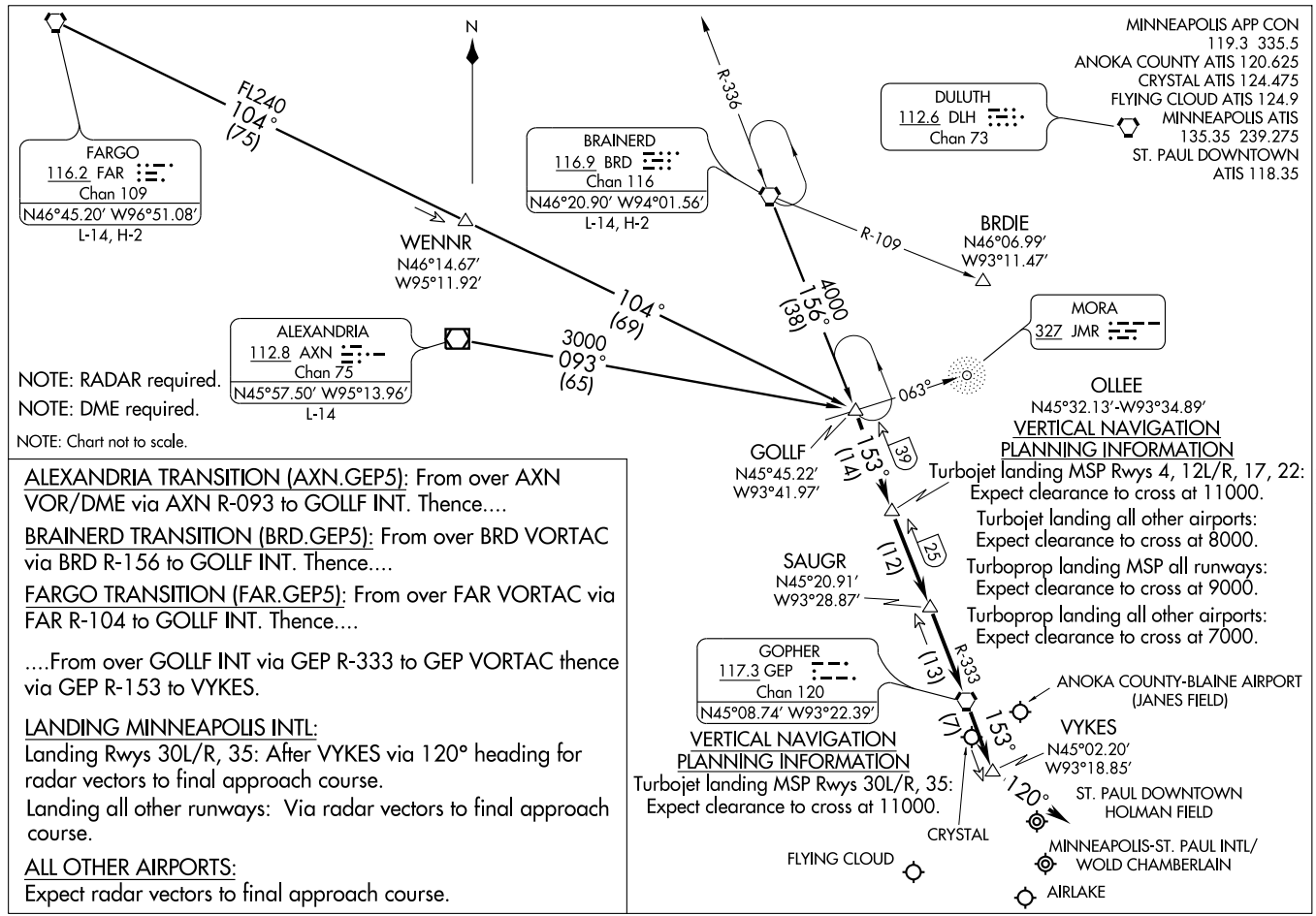
MINNEAPOLIS-ST. PAUL, MINNESOTA



SIOUX FALLS TRANSITION (FSD.ENCEE1)

From over ENCEE WP via 071° track to RIXIE WP, thence via 060° track to GEP VORTAC, thence expect radar vectors to final approach course.

GOPHER FIVE ARRIVAL



NOTE: RADAR required.

NOTE: DME required.

NOTE: Chart not to scale.

VERTICAL NAVIGATION PLANNING INFORMATION

Turbojet landing MSP Rwys 4, 12L/R, 17, 22: Expect clearance to cross at 11000.

Turbojet landing all other airports: Expect clearance to cross at 8000.

Turboprop landing MSP all runways: Expect clearance to cross at 9000.

Turboprop landing all other airports: Expect clearance to cross at 7000.

VERTICAL NAVIGATION PLANNING INFORMATION

Turbojet landing MSP Rwys 30L/R, 35: Expect clearance to cross at 11000.

ALEXANDRIA TRANSITION (AXN.GEP5): From over AXN VOR/DME via AXN R-093 to GOLLF INT. Thence....

BRAINERD TRANSITION (BRD.GEP5): From over BRD VORTAC via BRD R-156 to GOLLF INT. Thence....

FARGO TRANSITION (FAR.GEP5): From over FAR VORTAC via FAR R-104 to GOLLF INT. Thence....

....From over GOLLF INT via GEP R-333 to GEP VORTAC thence via GEP R-153 to VYKES.

LANDING MINNEAPOLIS INTL:

Landing Rwys 30L/R, 35: After VYKES via 120° heading for radar vectors to final approach course.

Landing all other runways: Via radar vectors to final approach course.

ALL OTHER AIRPORTS:

Expect radar vectors to final approach course.

ILS or LOC RWY 10R
MINNEAPOLIS/ FLYING CLOUD (FCM)

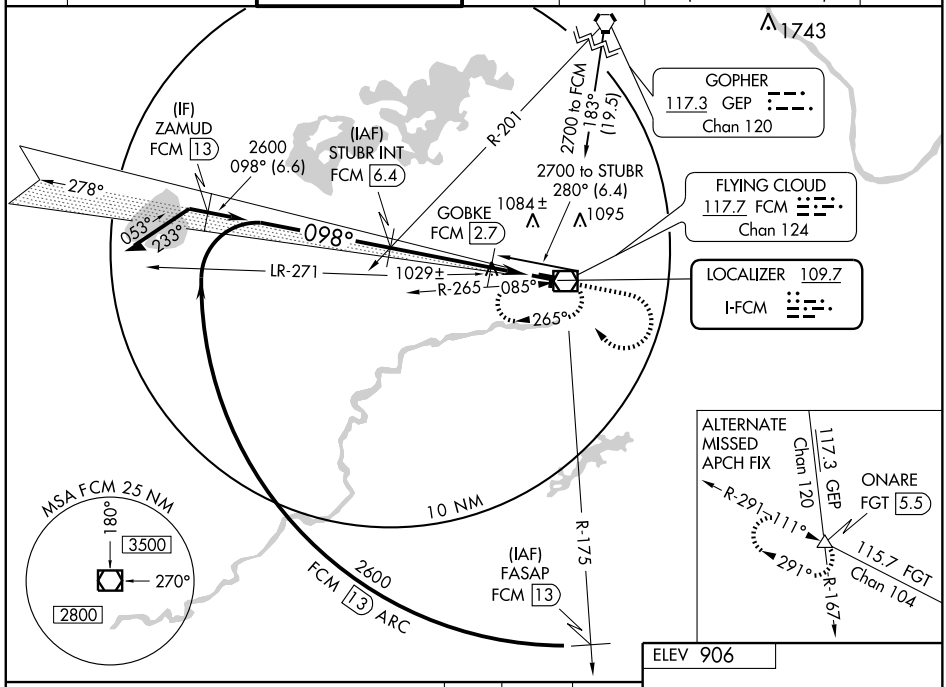
LOC I-FCM	APP CRS	Rwy ldg / TDZE / Apt Elev
109.7	098°	5000 / 905 / 906

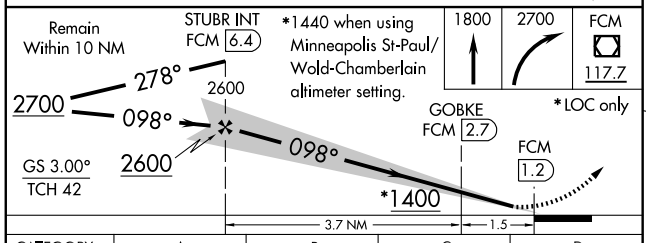
When local altimeter setting not received, use Minneapolis-St Paul Intl/ Wold Chamberlain altimeter setting and increase DA 34 feet and all MDA 40 feet, increase S-LOC Cat C and D visibility ¼ mile, GOBKE FIX minimums: Increase S-LOC Cat C visibility ¼ mile.

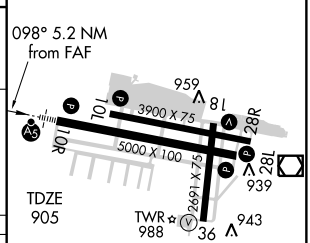
MALSR

MISSED APPROACH: Climb to 1800 then climbing right turn to 2700 direct FCM VOR/DME and hold, continue climb-in-hold to 2700.

ATIS	MINNEAPOLIS APP CON	FLYING CLOUD TOWER ★	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
124.9	134.7 284.7	119.15 (CTAF) L	121.7	121.7	121.7 (When tower closed)	122.95







CATEGORY	A	B	C	D
S-ILS 10R	1105-½ 200 (200-½)			
S-LOC 10R	1400-½ 495 (500-½)		1400-¾ 495 (500-¾)	1400-1 495 (500-1)
CIRCLING	1400-1 494 (500-1)		1400-1½ 494 (500-1½)	1460-2 554 (600-2)
GOBKE FIX MINIMUMS				
S-LOC 10R	1280-½ 375 (400-½)			1280-¾ 375 (400-¾)
CIRCLING	1320-1 414 (500-1)	1360-1 454 (500-1)	1360-1½ 454 (500-1½)	1460-2 554 (600-2)

REIL Rwys 18, 28L, and 36 L
MIRL Rwys 10L-28R and 18-36 L
HIRL Rwy 10R-28L L

FAF to MAP 5.2 NM					
Knots	60	90	120	150	180
Min:Sec	5:12	3:28	2:36	2:05	1:44

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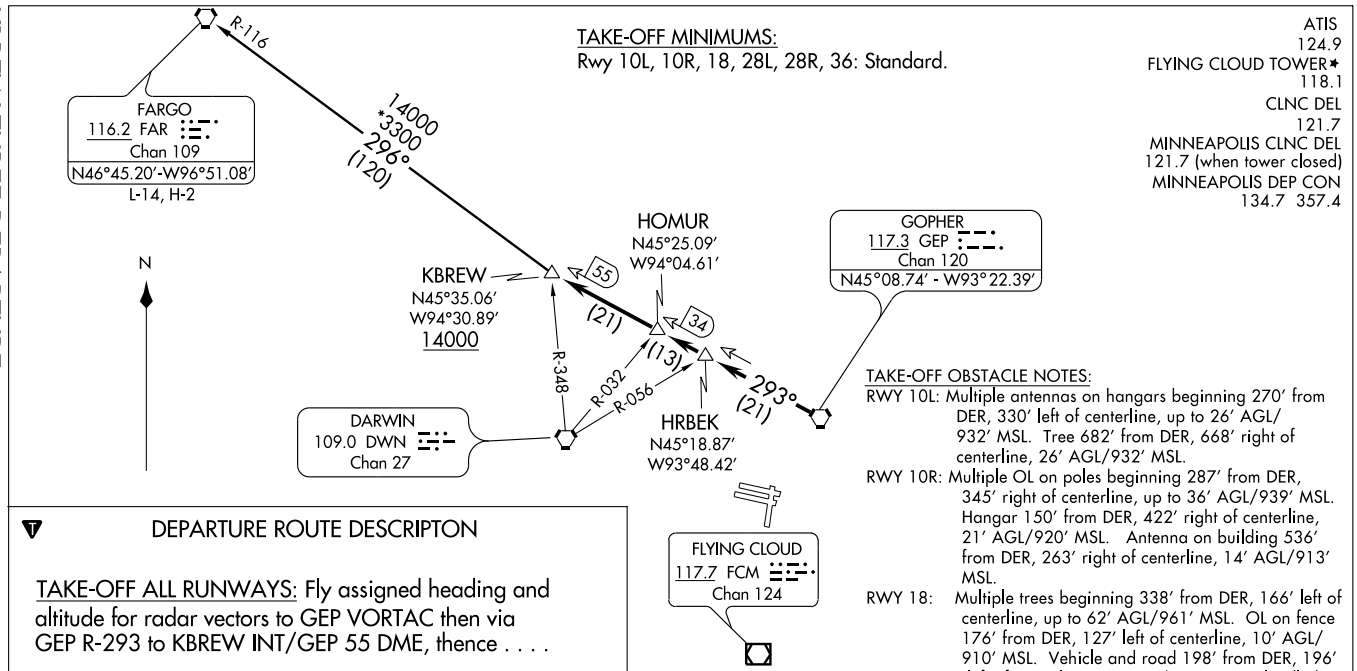
TAKE-OFF MINIMUMS:
Rwy 10L, 10R, 18, 28L, 28R, 36: Standard.

ATIS
124.9
FLYING CLOUD TOWER*
118.1
CLNC DEL
121.7
MINNEAPOLIS CLNC DEL
121.7 (when tower closed)
MINNEAPOLIS DEP CON
134.7 357.4



DEPARTURE ROUTE DESCRIPTON

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to GEP VORTAC then via GEP R-293 to KBREW INT/GEP 55 DME, thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

FARGO TRANSITION (KBREW3.FAR):
From over KBREW INT via FAR R-116 to FAR VORTAC.

TAKE-OFF OBSTACLE NOTES:

RWY 10L: Multiple antennas on hangars beginning 270′ from DER, 330′ left of centerline, up to 26′ AGL/ 932′ MSL. Tree 682′ from DER, 668′ right of centerline, 26′ AGL/932′ MSL.

RWY 10R: Multiple OL on poles beginning 287′ from DER, 345′ right of centerline, up to 36′ AGL/939′ MSL. Hangar 150′ from DER, 422′ right of centerline, 21′ AGL/920′ MSL. Antenna on building 536′ from DER, 263′ right of centerline, 14′ AGL/913′ MSL.

RWY 18: Multiple trees beginning 338′ from DER, 166′ left of centerline, up to 62′ AGL/961′ MSL. OL on fence 176′ from DER, 127′ left of centerline, 10′ AGL/ 910′ MSL. Vehicle and road 198′ from DER, 196′ left of centerline, 15′ AGL/918′ MSL. Floodlight 148′ from DER, 374′ right of centerline, 38′ AGL/938′ MSL. OL on hangar 282′ from DER, 317′ right of centerline, 37′ AGL/937′ MSL.

RWY 28R: Hangar 259′ from DER, 355′ right of centerline, 18′ AGL/931′ MSL.

RWY 36: Wind vane 923′ from DER, 404′ left of centerline, 61′ AGL/960′ MSL. Vent on building 943′ from DER, 295′ left of centerline, 44′ AGL/943′ MSL. Pole 714′ from DER, 351′ left of centerline, 33′ AGL/932′ MSL. Multiple trees beginning 504′ from DER, 324′ right of centerline, up to 67′ AGL/ 966′ MSL.

NOTE: RADAR required.
NOTE: Chart not to scale.

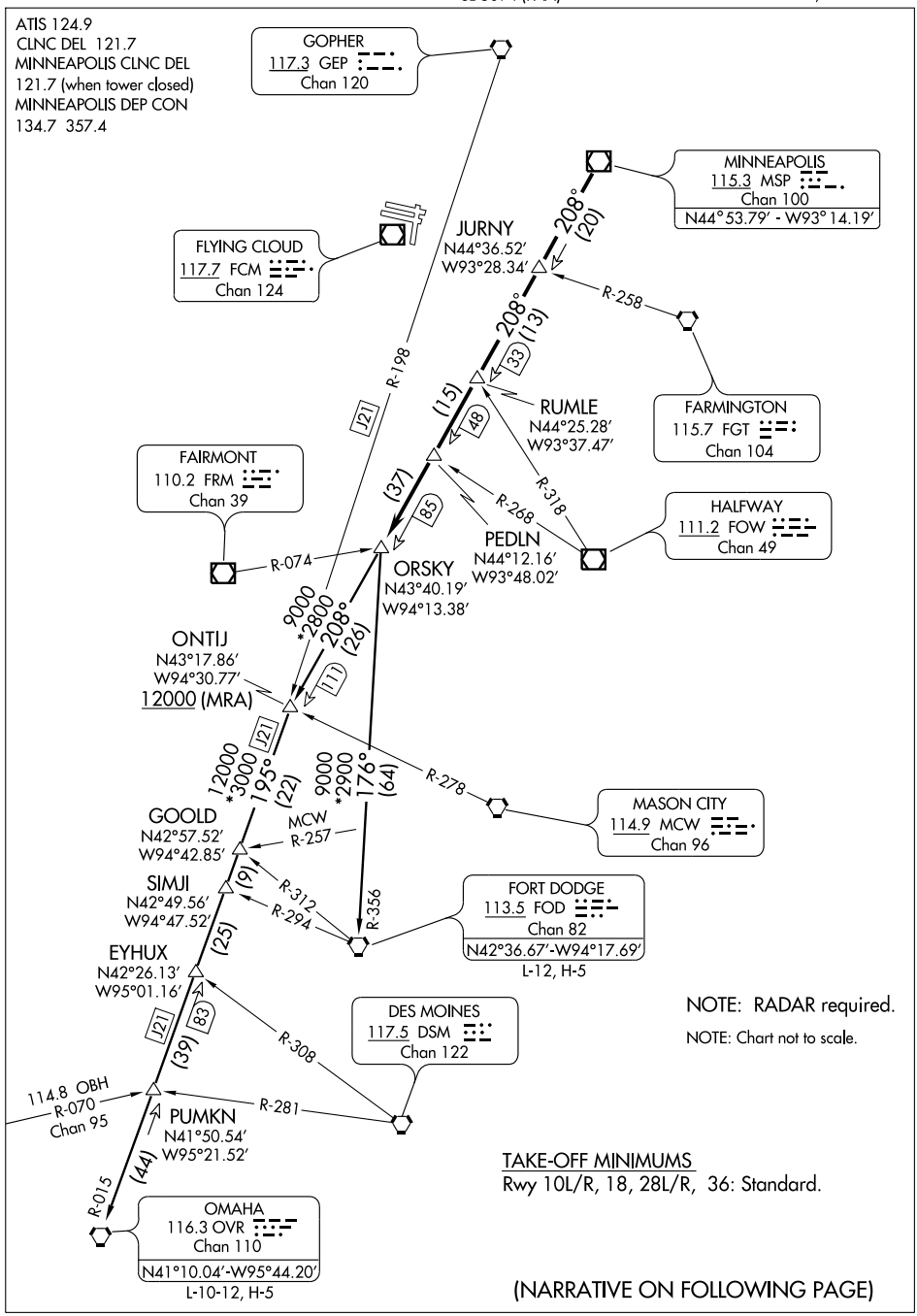
(ORSKY4.ORSKY) 10098

ORSKY FOUR DEPARTURE

SL-5094 (FAA)

MINNEAPOLIS/ FLYING CLOUD (FCM)
MINNEAPOLIS, MINNESOTA

ATIS 124.9
CLNC DEL 121.7
MINNEAPOLIS CLNC DEL
121.7 (when tower closed)
MINNEAPOLIS DEP CON
134.7 357.4



NOTE: RADAR required.

NOTE: Chart not to scale.

TAKE-OFF MINIMUMS

Rwy 10L/R, 18, 28L/R, 36: Standard.

(NARRATIVE ON FOLLOWING PAGE)

NC-1, 08 APR 2010 to 06 MAY 2010

ORSKY FOUR DEPARTURE

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-208 to ORSKY INT/MSP 85 DME, thence via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

FORT DODGE TRANSITION (ORSKY4.FOD): From over ORSKY INT via FOD R-356 to FOD VORTAC.

OMAHA TRANSITION (ORSKY4.OVR): From over ORSKY INT via MSP R-208 to ONTIJ INT then via OVR R-015 to OVR VORTAC.

TAKE-OFF OBSTACLE NOTES

RWY 10L: Multiple antennas on hangars beginning 270′ from DER, 330′ left of centerline, up to 26′ AGL/932′ MSL.
Tree 682′ from DER, 668′ right of centerline, 26′ AGL/932′ MSL.

RWY 10R: Multiple OL on poles beginning 287′ from DER, 345′ right of centerline, up to 36′ AGL/939′ MSL.
Hangar 150′ from DER, 422′ right of centerline, 21′ AGL/920′ MSL.
Antenna on building 536′ from DER, 263′ right of centerline, 14′ AGL/913′ MSL.

RWY 18: Multiple trees beginning 338′ from DER, 166′ left of centerline, up to 62′ AGL/961′ MSL.
OL on fence 176′ from DER, 127′ left of centerline, 10′ AGL/910′ MSL.
Vehicle and road 198′ from DER, 196′ left of centerline, 15′ AGL/918′ MSL.
Floodlight 148′ from DER, 374′ right of centerline, 38′ AGL/938′ MSL.
OL on hangar 282′ from DER, 317′ right of centerline, 37′ AGL/937′ MSL.

RWY 28R: Hangar 259′ from DER, 355′ right of centerline, 18′ AGL/931′ MSL.

RWY 36: Wind vane 923′ from DER, 404′ left of centerline, 61′ AGL/960′ MSL.
Vent on building 943′ from DER, 295′ left of centerline, 44′ AGL/943′ MSL.
Pole 714′ from DER, 351′ left of centerline, 33′ AGL/932′ MSL.
Multiple trees beginning 504′ from DER, 324′ right of centerline, up to 67′ AGL/966′ MSL.

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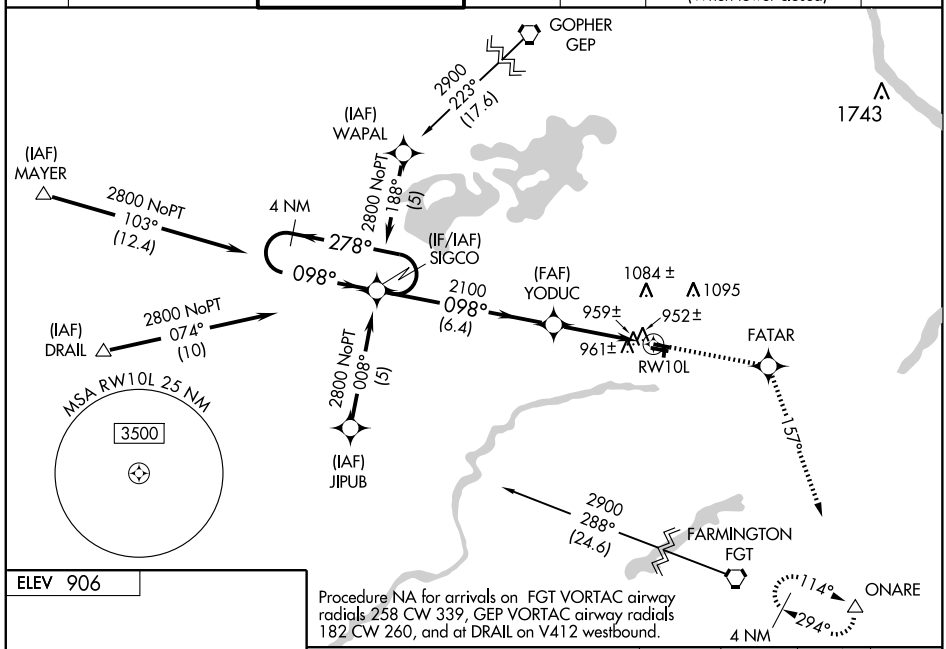
WAAS CH 42510 W10A	APP CRS 098°	Rwy ldg 3900 TDZE 905 Apt Elev 906

RNAV (GPS) RWY 10L
FLYING CLOUD (FCM)

Baro-VNAV NA when using Minneapolis-St. Paul Intl/Wold Chamberlain altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 46°C (114°F). DME/DME RNP -0.3 NA. Visibility reduction by helicopters NA. When local altimeter setting not received, use Minneapolis-St. Paul Intl/Wold Chamberlain altimeter setting and increase all DA 34 feet and all MDA 40 feet and LNAV Cat D visibility ¼ mile.

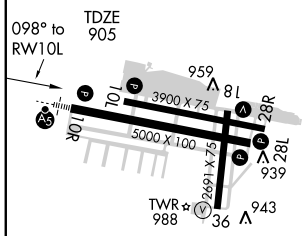
Climb to 2900 direct FATAR and via 157° track to ONARE and hold.

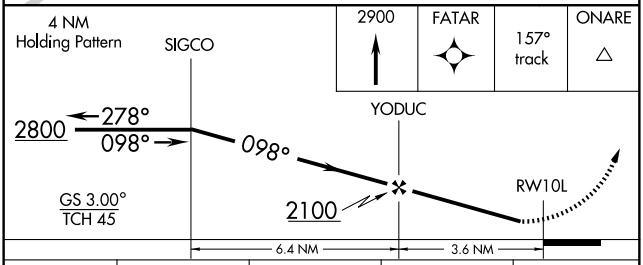
ATIS	MINNEAPOLIS APP CON	FLYING CLOUD TOWER ★	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
124.9	134.7 284.7	119.15 (CTAF) L	121.7	121.7	121.7 (When tower closed)	122.95



Procedure NA for arrivals on FGT VORTAC airway radials 258 CW 339, GEP VORTAC airway radials 182 CW 260, and at DRAIL on V412 westbound.

ELEV 906





CATEGORY	A	B	C	D
LPV DA	1186-1 281 (300-1)			
LNAV/VNAV DA	1229-1¼ 324 (400-1¼)			
LNAV MDA	1240-1 335 (400-1)			
CIRCLING	1300-1 394 (400-1)	1360-1 454 (500-1)	1360-1½ 454 (500-1½)	1460-2 554 (600-2)

REIL Rwys 18, 28L, and 36 L
MIRL Rwys 10L-28R and 18-36 L
HIRL Rwy 10R-28L L

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APP CRS	Rwy ldg	5000
278°	TDZE	906
	Apt Elev	906

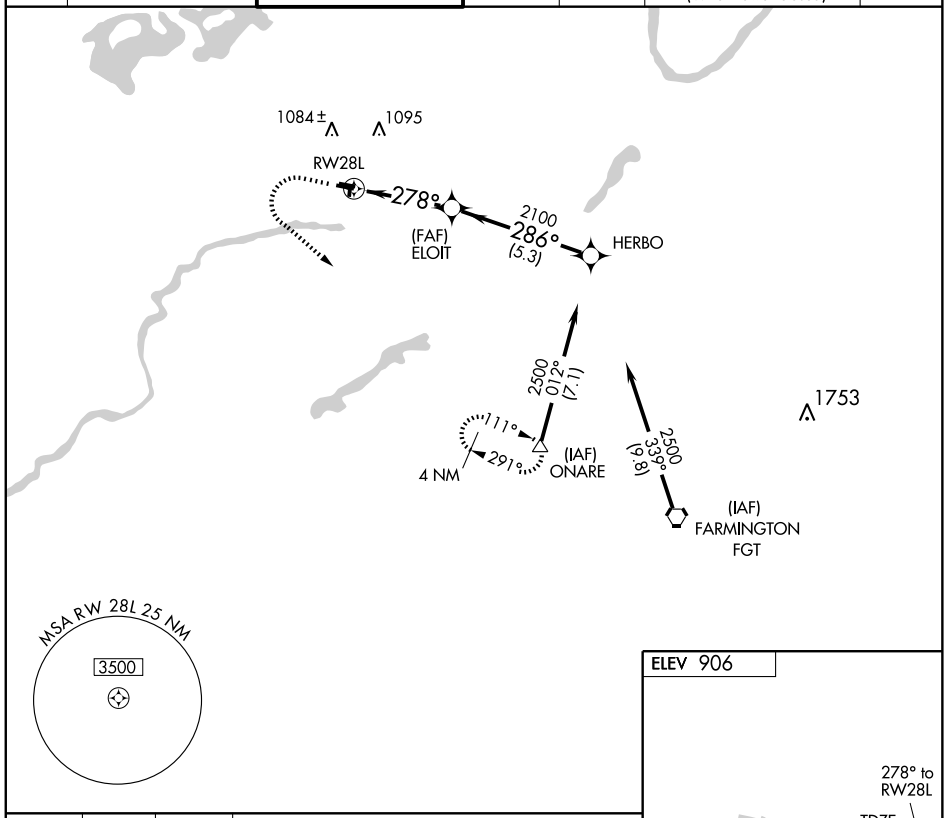
RNAV (GPS) RWY 28L
MINNEAPOLIS/ FLYING CLOUD (FCM)

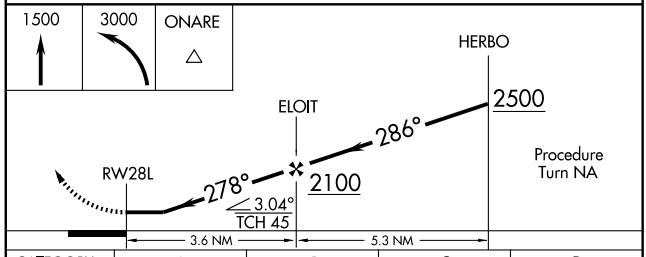
NA

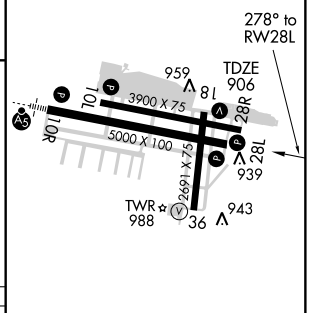
GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 1500 then climbing left turn to 3000 direct ONARE WP and hold.

ATIS	MINNEAPOLIS APP CON	FLYING CLOUD TOWER ★	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
124.9	134.7 284.7	119.15 (CTAF) L	121.7	121.7	121.7 (When tower closed)	122.95







REIL Rwys 18, 28L, and 36 L
MIRL Rwys 10L-28R and 18-36 L
HIRL Rwy 10R-28L L

CATEGORY	A	B	C	D
LNAV MDA	1280-1 374 (400-1)			1280-1¼ 374 (400-1¼)
CIRCLING	1320-1 414 (500-1)	1360-1 454 (500-1)	1360-1½ 454 (500-1½)	1460-2 554 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

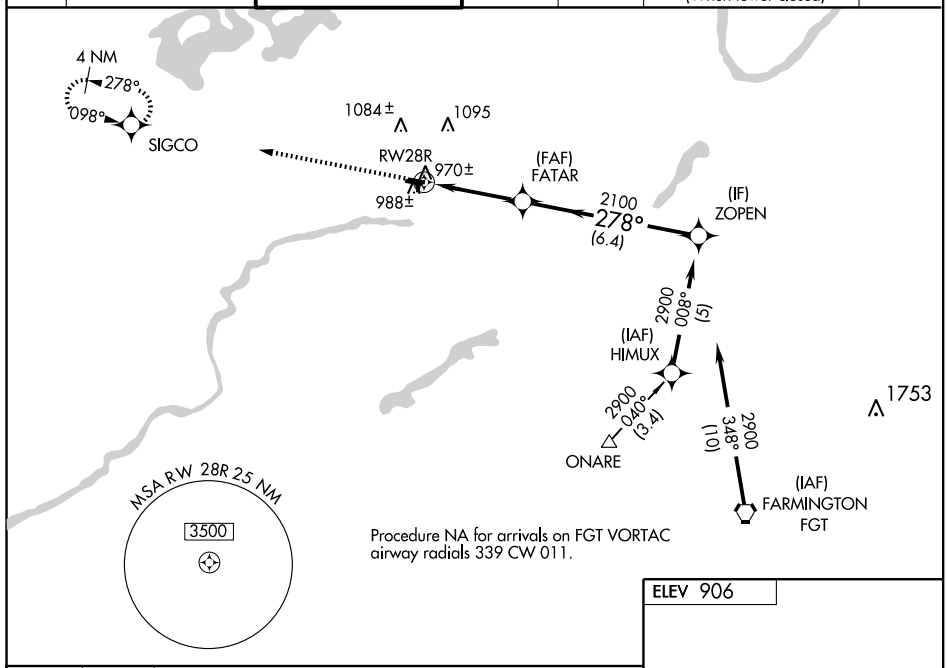
WAAS CH 99709 W28A	APP CRS 278°	Rwy ldg 3900 TDZE 900 Apt Elev 906

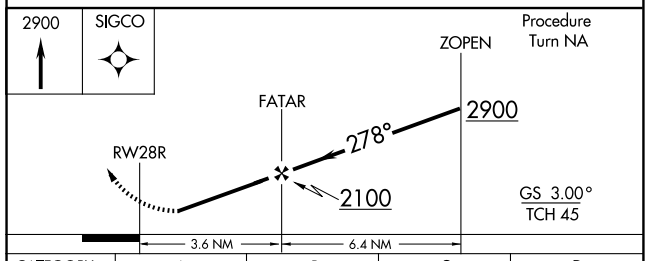
RNAV (GPS) RWY 28R
MINNEAPOLIS/ FLYING CLOUD (FCM)

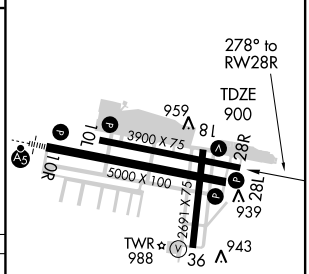
DME/DME RNP -0.3 NA. Visibility reduction by helicopters NA. When local altimter setting not received, use Minneapolis-St. Paul Intl/ Wold Chamberlain altimeter setting and increase all DA 34 feet and all MDA 40 feet and LNAV Cat D visibility ¼ mile. Baro-VNAV NA when using Minneapolis-St Paul Intl/Wold Chamberlain altimeter setting. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16° C (4°F) or above 46°C (114°F).

MISSED APPROACH: Climb to 2900 direct SIGCO and hold.

ATIS	MINNEAPOLIS APP CON	FLYING CLOUD TOWER ★	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
124.9	134.7 284.7	119.15 (CTAF) L	121.7	121.7	121.7 (When tower closed)	122.95







CATEGORY	A	B	C	D
LPV DA	1150-1 250 (300-1)			
LNAV/VNAV DA	1240-1¼ 340 (400-1¼)			
LNAV MDA	1240-1 340 (400-1)			
CIRCLING	1300-1 394 (400-1)	1360-1 454 (500-1)	1360-1½ 454 (500-1½)	1460-2 554 (600-2)

REIL Rwys 18, 28L, and 36 L
MIRL Rwys 10L-28R and 18-36 L
HIRL Rwy 10R-28L L

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	2691
003°	TDZE	905
	Apt Elev	906

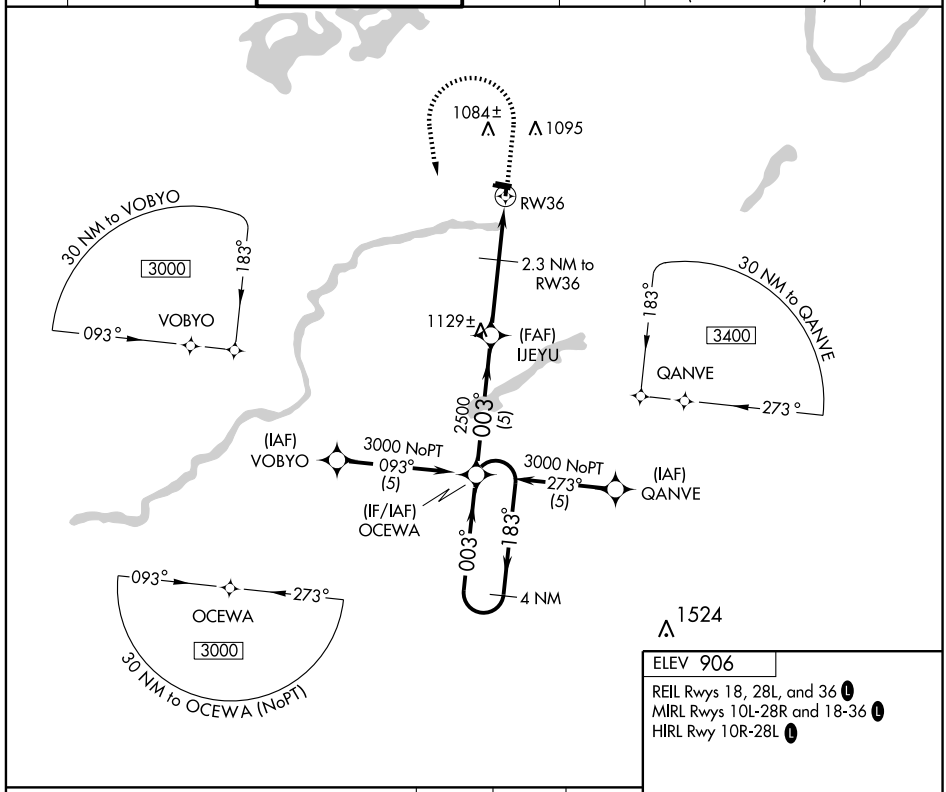
RNAV (GPS) RWY 36
MINNEAPOLIS/ FLYING CLOUD (FCM)

NA

GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 2000 then climbing left turn to 3000 direct OCEWA WP and hold.

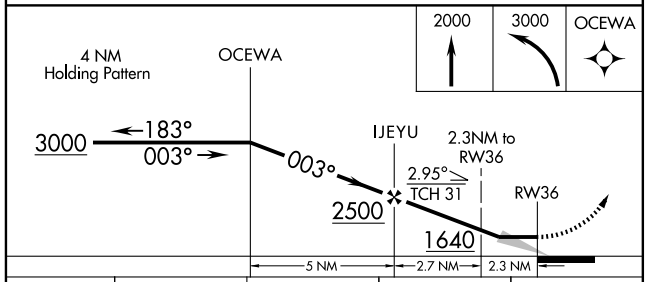
ATIS	MINNEAPOLIS APP CON	FLYING CLOUD TOWER ★	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
124.9	134.7 284.7	119.15 (CTAF) L	121.7	121.7	121.7 (When tower closed)	122.95

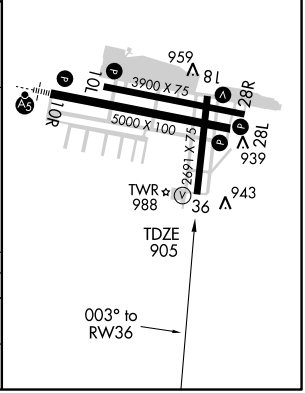


NC-1. 08 APR 2010 to 06 MAY 2010

ELEV 906

REIL Rwys 18, 28L, and 36 L
MIRL Rwys 10L-28R and 18-36 L
HIRL Rwy 10R-28L L





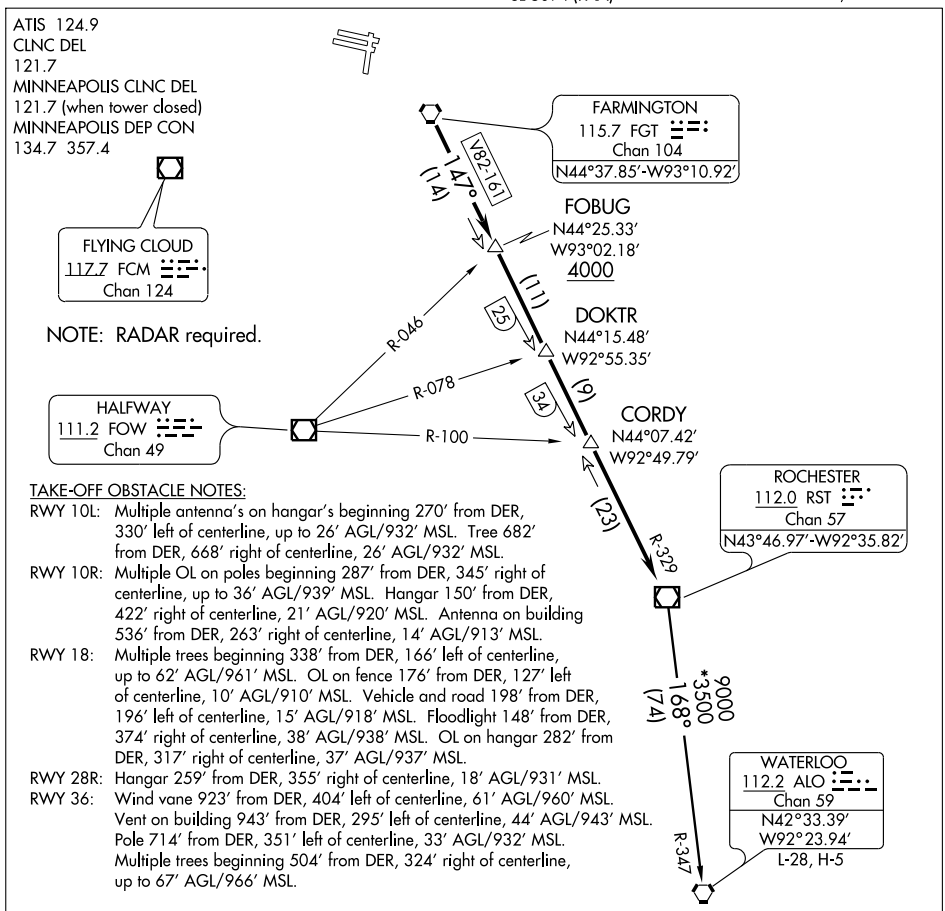
CATEGORY	A	B	C	D
LNAV MDA	1240-1 335 (400-1)			NA
CIRCLING	1320-1 414 (500-1)	1360-1 454 (500-1)	1360-1½ 454 (500-1½)	NA

ROCHESTER FOUR DEPARTURE

SL-5094 (FAA)

MINNEAPOLIS/ FLYING CLOUD (FCM)
MINNEAPOLIS, MINNESOTA

ATIS 124.9
CLNC DEL
121.7
MINNEAPOLIS CLNC DEL
121.7 (when tower closed)
MINNEAPOLIS DEP CON
134.7 357.4



NOTE: RADAR required.

TAKE-OFF OBSTACLE NOTES:

RWY 10L: Multiple antenna's on hangar's beginning 270' from DER, 330' left of centerline, up to 26' AGL/932' MSL. Tree 682' from DER, 668' right of centerline, 26' AGL/932' MSL.

RWY 10R: Multiple OL on poles beginning 287' from DER, 345' right of centerline, up to 36' AGL/939' MSL. Hangar 150' from DER, 422' right of centerline, 21' AGL/920' MSL. Antenna on building 536' from DER, 263' right of centerline, 14' AGL/913' MSL.

RWY 18: Multiple trees beginning 338' from DER, 166' left of centerline, up to 62' AGL/961' MSL. OL on fence 176' from DER, 127' left of centerline, 10' AGL/910' MSL. Vehicle and road 198' from DER, 196' left of centerline, 15' AGL/918' MSL. Floodlight 148' from DER, 374' right of centerline, 38' AGL/938' MSL. OL on hangar 282' from DER, 317' right of centerline, 37' AGL/937' MSL.

RWY 28R: Hangar 259' from DER, 355' right of centerline, 18' AGL/931' MSL.

RWY 36: Wind vane 923' from DER, 404' left of centerline, 61' AGL/960' MSL. Vent on building 943' from DER, 295' left of centerline, 44' AGL/943' MSL. Pole 714' from DER, 351' left of centerline, 33' AGL/932' MSL. Multiple trees beginning 504' from DER, 324' right of centerline, up to 67' AGL/966' MSL.

TAKE-OFF MINIMUMS:
Rwy 10L, 10R, 18, 28L, 28R, 36: Standard.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF ALL RUNWAYS:
Fly assigned heading and altitude for radar vectors to FGT VORTAC then via FGT R-147 and RST R-329 to RST VOR/DME. Cross FOBUG INT/FGT 14 DME at or above 4000, Thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

WATERLOO TRANSITION (RST4.ALO): From over RST VOR/DME via RST R-168 and ALO R-347 to ALO VORTAC.

TAKE-OFF OBSTACLE NOTES:

RWY 10L: Multiple antenna's on hangar's beginning 270′ from DER, 330′ left of centerline, up to 26′ AGL/932′ MSL. Tree 682′ from DER, 668′ right of centerline, 26′ AGL/932′ MSL.

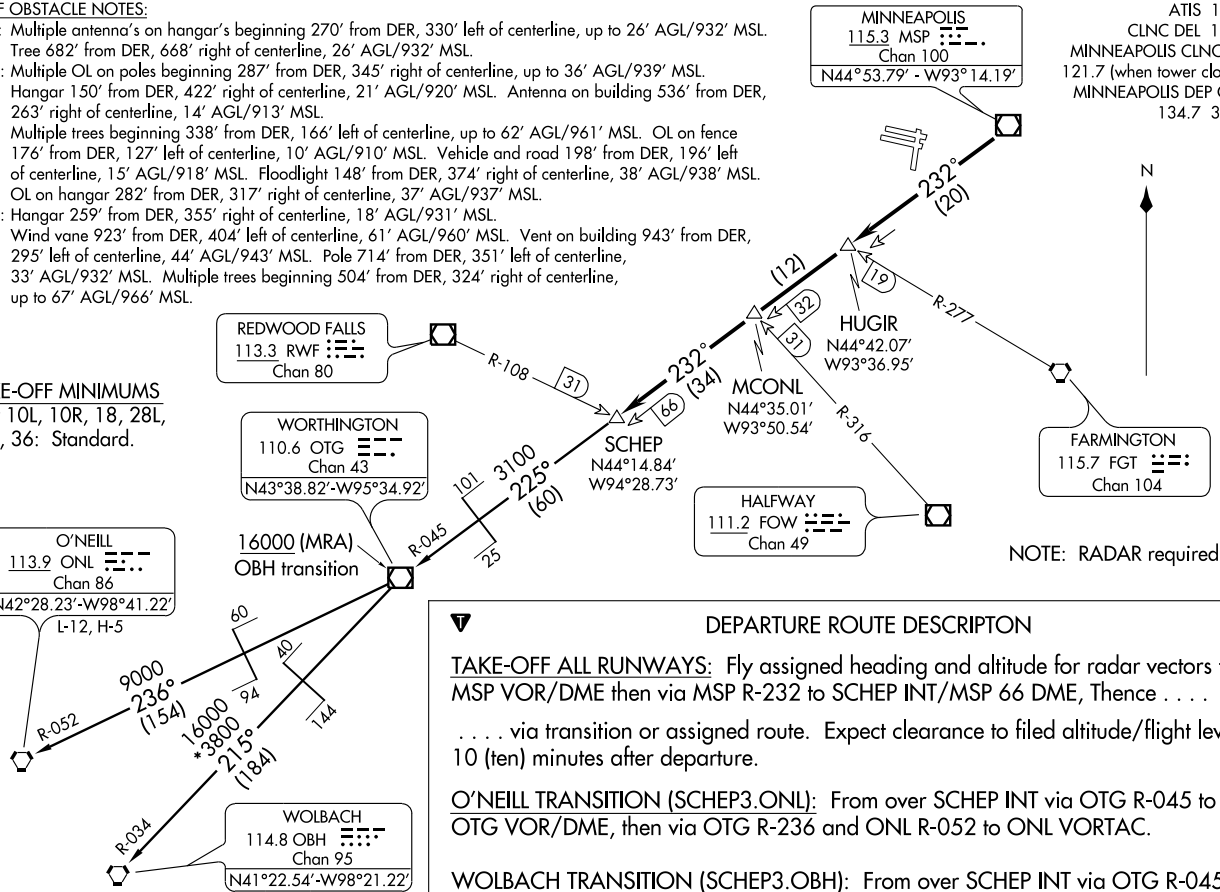
RWY 10R: Multiple OL on poles beginning 287′ from DER, 345′ right of centerline, up to 36′ AGL/939′ MSL. Hangar 150′ from DER, 422′ right of centerline, 21′ AGL/920′ MSL. Antenna on building 536′ from DER, 263′ right of centerline, 14′ AGL/913′ MSL.

RWY 18: Multiple trees beginning 338′ from DER, 166′ left of centerline, up to 62′ AGL/961′ MSL. OL on fence 176′ from DER, 127′ left of centerline, 10′ AGL/910′ MSL. Vehicle and road 198′ from DER, 196′ left of centerline, 15′ AGL/918′ MSL. Floodlight 148′ from DER, 374′ right of centerline, 38′ AGL/938′ MSL. OL on hangar 282′ from DER, 317′ right of centerline, 37′ AGL/937′ MSL.

RWY 28R: Hangar 259′ from DER, 355′ right of centerline, 18′ AGL/931′ MSL.

RWY 36: Wind vane 923′ from DER, 404′ left of centerline, 61′ AGL/960′ MSL. Vent on building 943′ from DER, 295′ left of centerline, 44′ AGL/943′ MSL. Pole 714′ from DER, 351′ left of centerline, 33′ AGL/932′ MSL. Multiple trees beginning 504′ from DER, 324′ right of centerline, up to 67′ AGL/966′ MSL.

ATIS 124.9
CLNC DEL 121.7
MINNEAPOLIS CLNC DEL
121.7 (when tower closed)
MINNEAPOLIS DEP CON
134.7 357.4



TAKE-OFF MINIMUMS
Rwy 10L, 10R, 18, 28L, 28R, 36: Standard.

NOTE: RADAR required.

NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-232 to SCHEP INT/MSP 66 DME, Thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

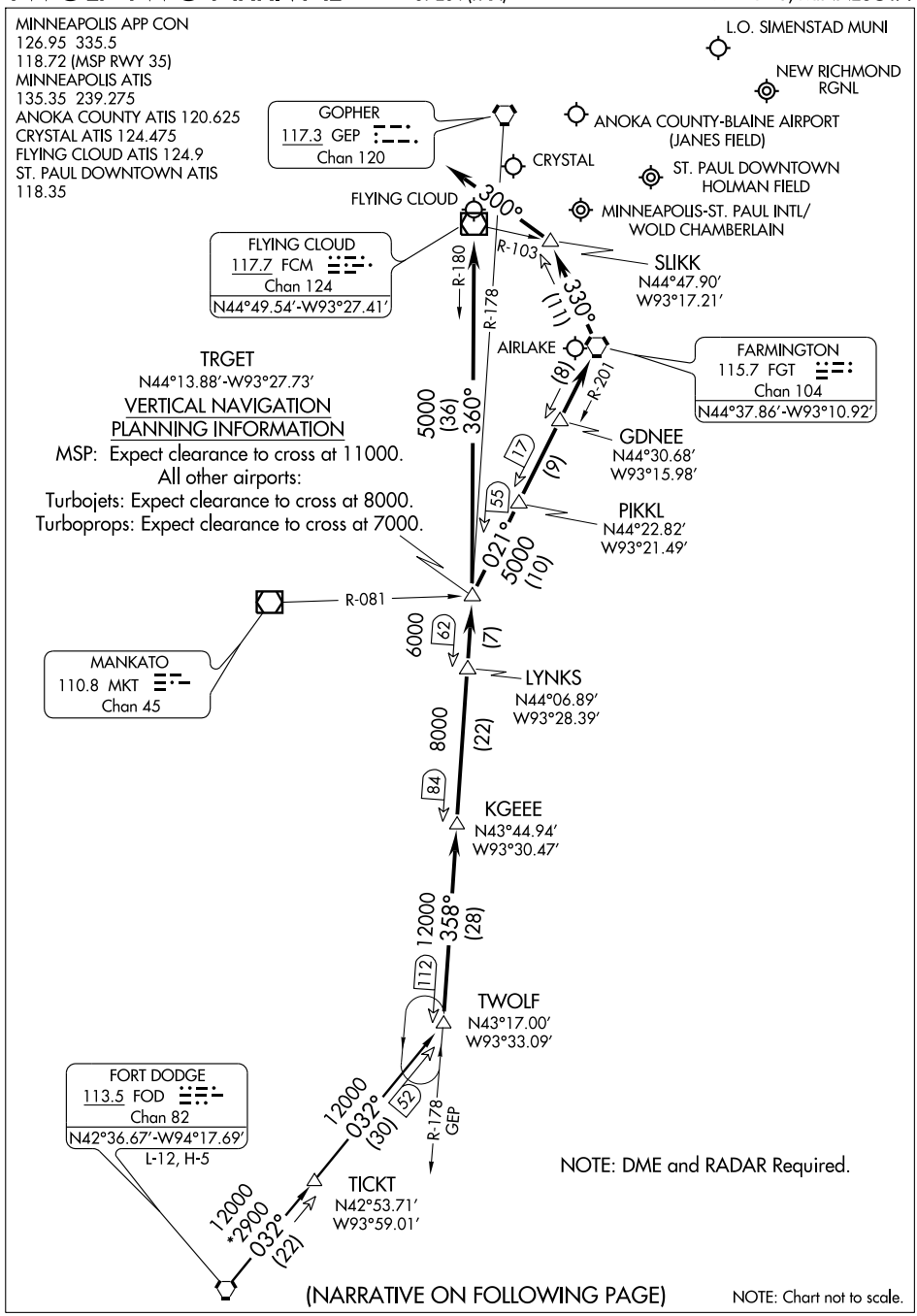
O'NEILL TRANSITION (SCHEP3.ONL): From over SCHEP INT via OTG R-045 to OTG VOR/DME, then via OTG R-236 and ONL R-052 to ONL VORTAC.

WOLBACH TRANSITION (SCHEP3.OBH): From over SCHEP INT via OTG R-045 to OTG VOR/DME then via OTG R-215 and OBH R-034 to OBH VORTAC.

TWOLF TWO ARRIVAL

ST-264 (FAA)

MINNEAPOLIS, MINNESOTA



TWOLF TWO ARRIVAL

ARRIVAL DESCRIPTION

FORT DODGE TRANSITION (FOD.TWOLF2): From over FOD VORTAC via FOD R-032 to TWOLF/FOD 52 DME, Thence . . . .

....From over TWOLF/GEP 112 DME via GEP R-178 to KGEEE/GEP 84 DME, then as depicted to TRGET INT/GEP 55 DME. Thence....

LANDING MSP RWYS 12L/R: From over TRGET INT via FGT R-201 to FGT VORTAC, then via FGT R-330 to SLIKK INT/FGT 11 DME, then via heading 300° for radar vectors to final approach course.

LANDING MSP RWYS 30L/R, 4, 22, 17, 35: From over TRGET INT via FGT R-201 to FGT VORTAC, then via radar vectors to final approach course.

LANDING ALL OTHER AIRPORTS: From over TRGET INT via FCM R-180 to FCM VOR/DME, then expect radar vectors to final approach course.

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME RWY 36

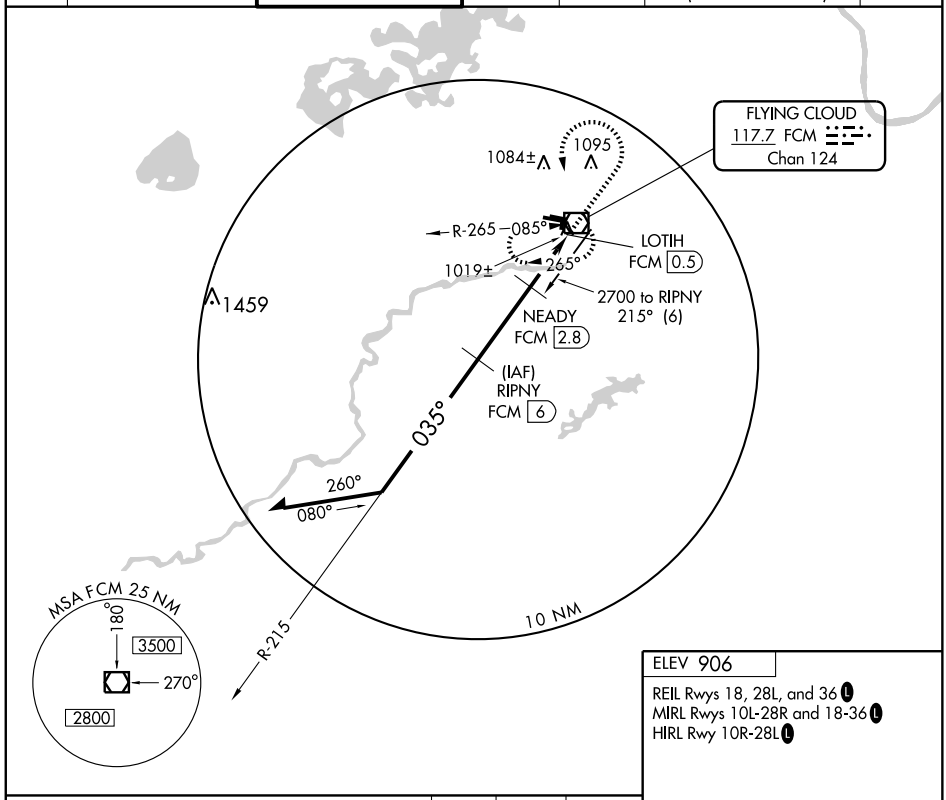
MINNEAPOLIS/ FLYING CLOUD (FCM)

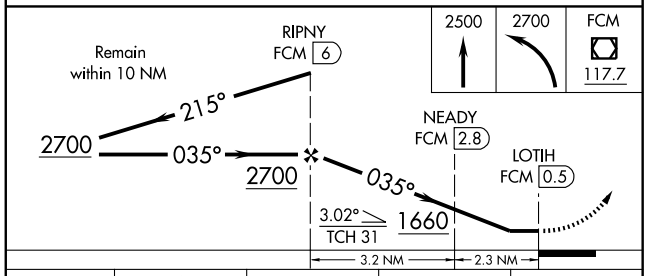
VOR/DME FCM 117.7 Chan 124	APP CRS 035°	Rwy ldg 2691 TDZE 905 Apt Elev 906

Visibility reduction by helicopters NA. When local altimeter setting not received, use Minneapolis St Paul Intl/Wold Chamberlain altimeter setting and increase all MDA 40 feet and S-36 Cat C visibility ¼ mile.

MISSED APPROACH: Climb to 2500 then climbing left turn to 2700 direct FCM VOR/DME and hold.

ATIS	MINNEAPOLIS APP CON	FLYING CLOUD TOWER ★	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
124.9	134.7 284.7	119.15 (CTAF) L	121.7	121.7	121.7 (When tower closed)	122.95

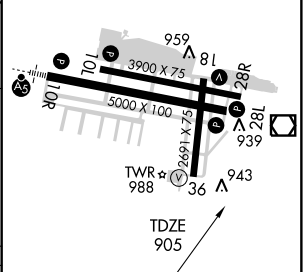




CATEGORY	A	B	C	D
S-36	1280-1 375 (400-1)			NA
CIRCLING	1320-1 414 (500-1)	1360-1 454 (500-1)	1360-1½ 454 (500-1½)	NA

ELEV 906

REIL Rwys 18, 28L, and 36 L
MIRL Rwys 10L-28R and 18-36 L
HIRL Rwy 10R-28L L



NC-1. 08 APR 2010 to 06 MAY 2010

VOR RWY 10R

MINNEAPOLIS/ FLYING CLOUD (FCM)

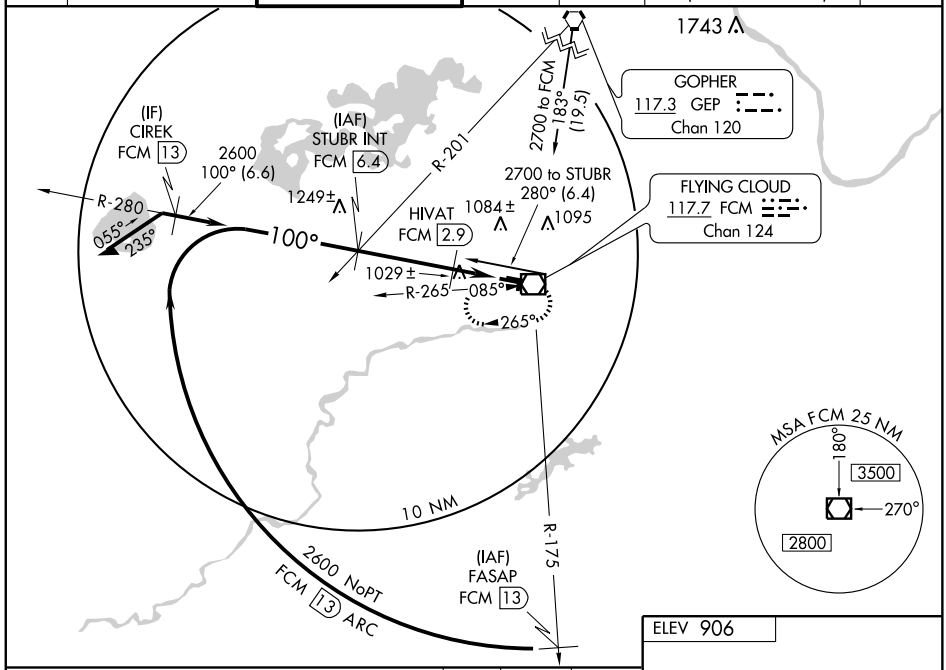
VOR/DME FCM 117.7 Chan 124	APP CRS 100°	Rwy ldg 5000 TDZE 905 Apt Elev 906

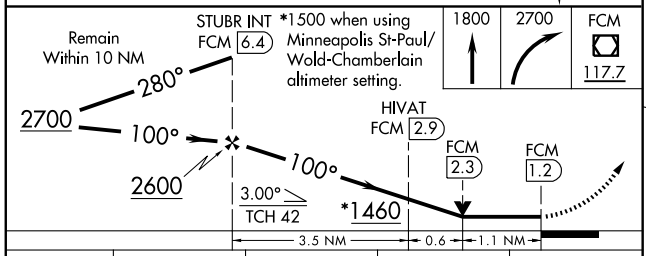
When local altimeter setting not received, use Minneapolis St-Paul/Wold-Chamberlain altimeter setting and increase all MDA 40 feet, HIVAT FIX minimums: Increase S-10R Cat C visibility ¼ mile. For inoperative MALSR, HIVAT FIX minimums: Increase S-10R Cat D visibility to 1¼ mile. VDP NA when using Minneapolis St-Paul/Wold-Chamberlain altimeter setting.

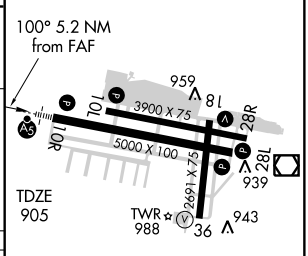
MALSR

MISSED APPROACH: Climb to 1800 then climbing right turn to 2700 direct FCM VOR/DME and hold, continue climb-in-hold to 2700.

ATIS	MINNEAPOLIS APP CON	FLYING CLOUD TOWER ★	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
124.9	134.7 284.7	119.15 (CTAF) L	121.7	121.7	121.7 (When tower closed)	122.95







CATEGORY	A	B	C	D
S-10R	1460-½ 555 (600-½)		1460-1 555 (600-1)	1460-1¼ 555 (600-1¼)
CIRCLING	1460-1 554 (600-1)		1460-1½ 554 (600-1½)	1460-2 554 (600-2)
HIVAT FIX MINIMUMS				
S-10R	1280-½ 375 (400-½)			1280-1 375 (400-1)
CIRCLING	1320-1 414 (500-1)	1360-1 454 (500-1)	1360-1½ 454 (500-1½)	1460-2 554 (600-2)

REIL Rwys 18, 28L, and 36 L
MIRL Rwys 10L-28R and 18-36 L
HIRL Rwy 10R-28L L

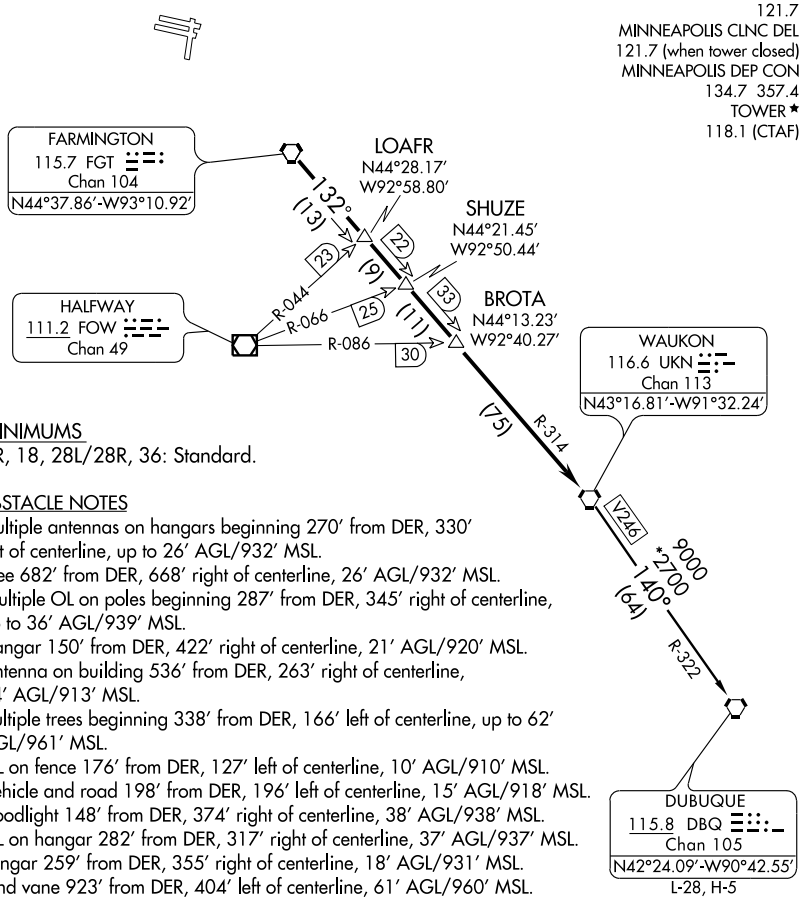
FAF to MAP 5.2 NM					
Knots	60	90	120	150	180
Min:Sec	5:12	3:28	2:36	2:05	1:44

NC-1. 08 APR 2010 to 06 MAY 2010

WAUKON THREE DEPARTURE SL-5094 (FAA)

MINNEAPOLIS/ FLYING CLOUD (FCM)
MINNEAPOLIS, MINNESOTA

ATIS 124.9
CLNC DEL
121.7
MINNEAPOLIS CLNC DEL
121.7 (when tower closed)
MINNEAPOLIS DEP CON
134.7 357.4
TOWER ★
118.1 (CTAF)



TAKE-OFF MINIMUMS
Rwy 10L/10R, 18, 28L/28R, 36: Standard.

TAKE-OFF OBSTACLE NOTES
RWY 10L: Multiple antennas on hangars beginning 270′ from DER, 330′ left of centerline, up to 26′ AGL/932′ MSL.
Tree 682′ from DER, 668′ right of centerline, 26′ AGL/932′ MSL.
RWY 10R: Multiple OL on poles beginning 287′ from DER, 345′ right of centerline, up to 36′ AGL/939′ MSL.
Hangar 150′ from DER, 422′ right of centerline, 21′ AGL/920′ MSL.
Antenna on building 536′ from DER, 263′ right of centerline, 14′ AGL/913′ MSL.
RWY 18: Multiple trees beginning 338′ from DER, 166′ left of centerline, up to 62′ AGL/961′ MSL.
OL on fence 176′ from DER, 127′ left of centerline, 10′ AGL/910′ MSL.
Vehicle and road 198′ from DER, 196′ left of centerline, 15′ AGL/918′ MSL.
Floodlight 148′ from DER, 374′ right of centerline, 38′ AGL/938′ MSL.
OL on hangar 282′ from DER, 317′ right of centerline, 37′ AGL/937′ MSL.
RWY 28R: Hangar 259′ from DER, 355′ right of centerline, 18′ AGL/931′ MSL.
RWY 36: Wind vane 923′ from DER, 404′ left of centerline, 61′ AGL/960′ MSL.
Vent on building 943′ from DER, 295′ left of centerline, 44′ AGL/943′ MSL.
Pole 714′ from DER, 351′ left of centerline, 33′ AGL/932′ MSL.
Multiple trees beginning 504′ from DER, 324′ right of centerline, up to 67′ AGL/966′ MSL.

NOTE: RADAR required.
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to FGT VORTAC then via FGT R-132 and UKN R-314 to UKN VORTAC, thence . . . .

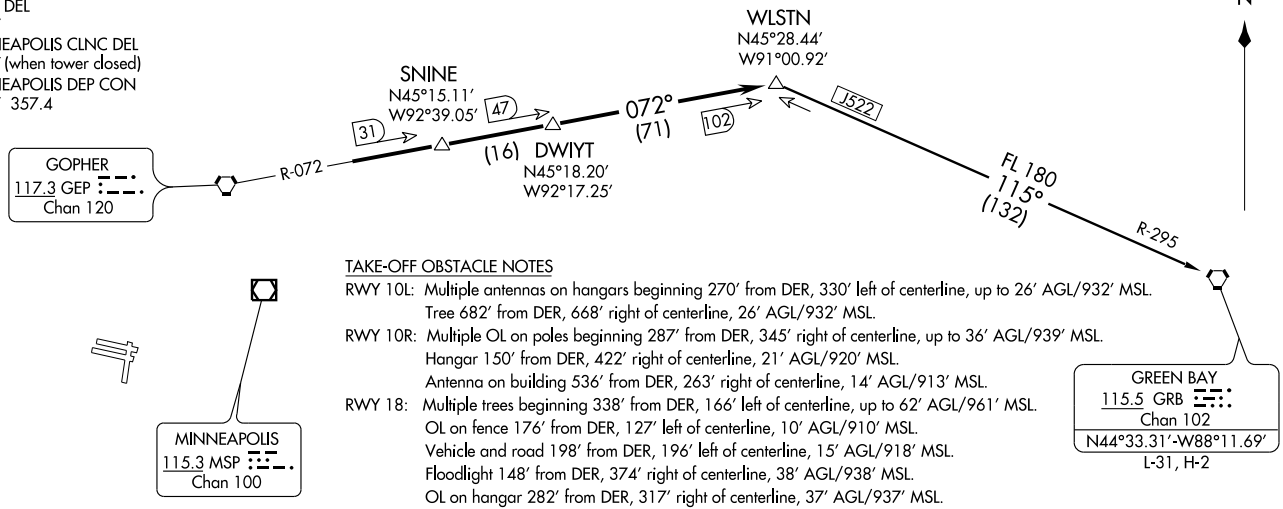
. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

DUBUQUE TRANSITION (UKN3.DBQ): From over UKN VORTAC via UKN R-140 and DBQ R-322 to DBQ VORTAC.

NC-1, 08 APR 2010 to 06 MAY 2010

WLSTN THREE DEPARTURE

ATIS 124.9
CLNC DEL
121.7
MINNEAPOLIS CLNC DEL
121.7 (when tower closed)
MINNEAPOLIS DEP CON
134.7 357.4



TAKE-OFF OBSTACLE NOTES

RWY 10L: Multiple antennas on hangars beginning 270′ from DER, 330′ left of centerline, up to 26′ AGL/932′ MSL.
Tree 682′ from DER, 668′ right of centerline, 26′ AGL/932′ MSL.

RWY 10R: Multiple OL on poles beginning 287′ from DER, 345′ right of centerline, up to 36′ AGL/939′ MSL.
Hangar 150′ from DER, 422′ right of centerline, 21′ AGL/920′ MSL.
Antenna on building 536′ from DER, 263′ right of centerline, 14′ AGL/913′ MSL.

RWY 18: Multiple trees beginning 338′ from DER, 166′ left of centerline, up to 62′ AGL/961′ MSL.
OL on fence 176′ from DER, 127′ left of centerline, 10′ AGL/910′ MSL.
Vehicle and road 198′ from DER, 196′ left of centerline, 15′ AGL/918′ MSL.
Floodlight 148′ from DER, 374′ right of centerline, 38′ AGL/938′ MSL.
OL on hangar 282′ from DER, 317′ right of centerline, 37′ AGL/937′ MSL.

RWY 28R: Hangar 259′ from DER, 355′ right of centerline, 18′ AGL/931′ MSL.

RWY 36: Wind vane 923′ from DER, 404′ left of centerline, 61′ AGL/960′ MSL.
Vent on building 943′ from DER, 295′ left of centerline, 44′ AGL/943′ MSL.
Pole 714′ from DER, 351′ left of centerline, 33′ AGL/932′ MSL.
Multiple trees beginning 504′ from DER, 324′ right of centerline, up to 67′ AGL/966′ MSL.

TAKE-OFF MINIMUMS
Rwy 10L, 10R, 18, 28L, 28R, 36: Standard.

NOTE: RADAR and DME required.
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to GEP R-072 to WLSTN/GEP 102 DME, thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/ flight level 10 (ten) minutes after departure.

GREEN BAY TRANSITION (WLSTN3.GRB): From over WLSTN via GRB R-295 to GRB VORTAC.

(ZMBRO3.ZMBRO) ZMBRO THREE DEPARTURE

10042

SL-5094 (FAA)

MINNEAPOLIS/ FLYING CLOUD (FCM)
MINNEAPOLIS, MINNESOTA

ATIS 124.9
CLNC DEL
121.7
MINNEAPOLIS CLNC DEL
121.7 (when tower closed)
MINNEAPOLIS DEP CON
134.7 357.4

TAKE-OFF OBSTACLE NOTES:

RWY 10L: Multiple antenna's on hangar's beginning 270' from DER, 330' left of centerline, up to 26' AGL/932' MSL. Tree 682' from DER, 668' right of centerline, 26' AGL/932' MSL.

RWY 10R: Multiple OL on poles beginning 287' from DER, 345' right of centerline, up to 36' AGL/939' MSL. Hangar 150' from DER, 422' right of centerline, 21' AGL/920' MSL. Antenna on building 536' from DER, 263' right of centerline, 14' AGL/913' MSL.

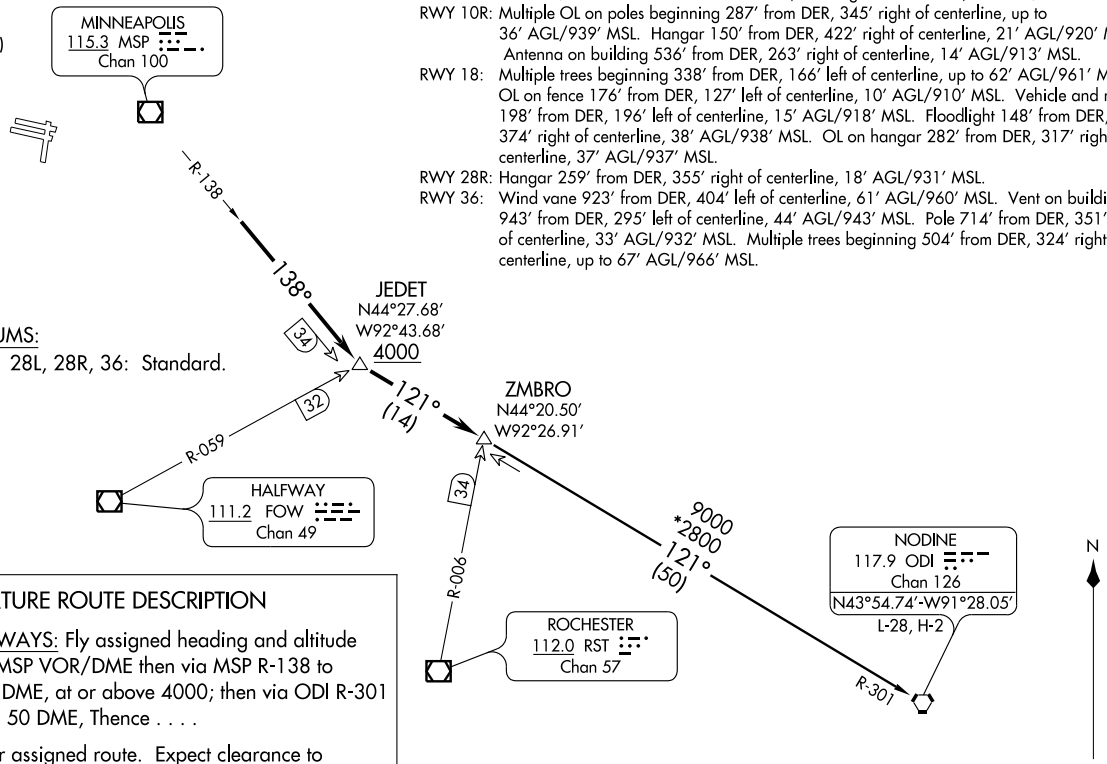
RWY 18: Multiple trees beginning 338' from DER, 166' left of centerline, up to 62' AGL/961' MSL. OL on fence 176' from DER, 127' left of centerline, 10' AGL/910' MSL. Vehicle and road 198' from DER, 196' left of centerline, 15' AGL/918' MSL. Floodlight 148' from DER, 374' right of centerline, 38' AGL/938' MSL. OL on hangar 282' from DER, 317' right of centerline, 37' AGL/937' MSL.

RWY 28R: Hangar 259' from DER, 355' right of centerline, 18' AGL/931' MSL.

RWY 36: Wind vane 923' from DER, 404' left of centerline, 61' AGL/960' MSL. Vent on building 943' from DER, 295' left of centerline, 44' AGL/943' MSL. Pole 714' from DER, 351' left of centerline, 33' AGL/932' MSL. Multiple trees beginning 504' from DER, 324' right of centerline, up to 67' AGL/966' MSL.

TAKE-OFF MINIMUMS:

Rwy 10L, 10R, 18, 28L, 28R, 36: Standard.



NOTE: RADAR Required

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF ALL RUNWAYS: Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-138 to JEDET INT/ MSP 34 DME, at or above 4000; then via ODI R-301 to ZMBRO INT/ ODI 50 DME, Thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

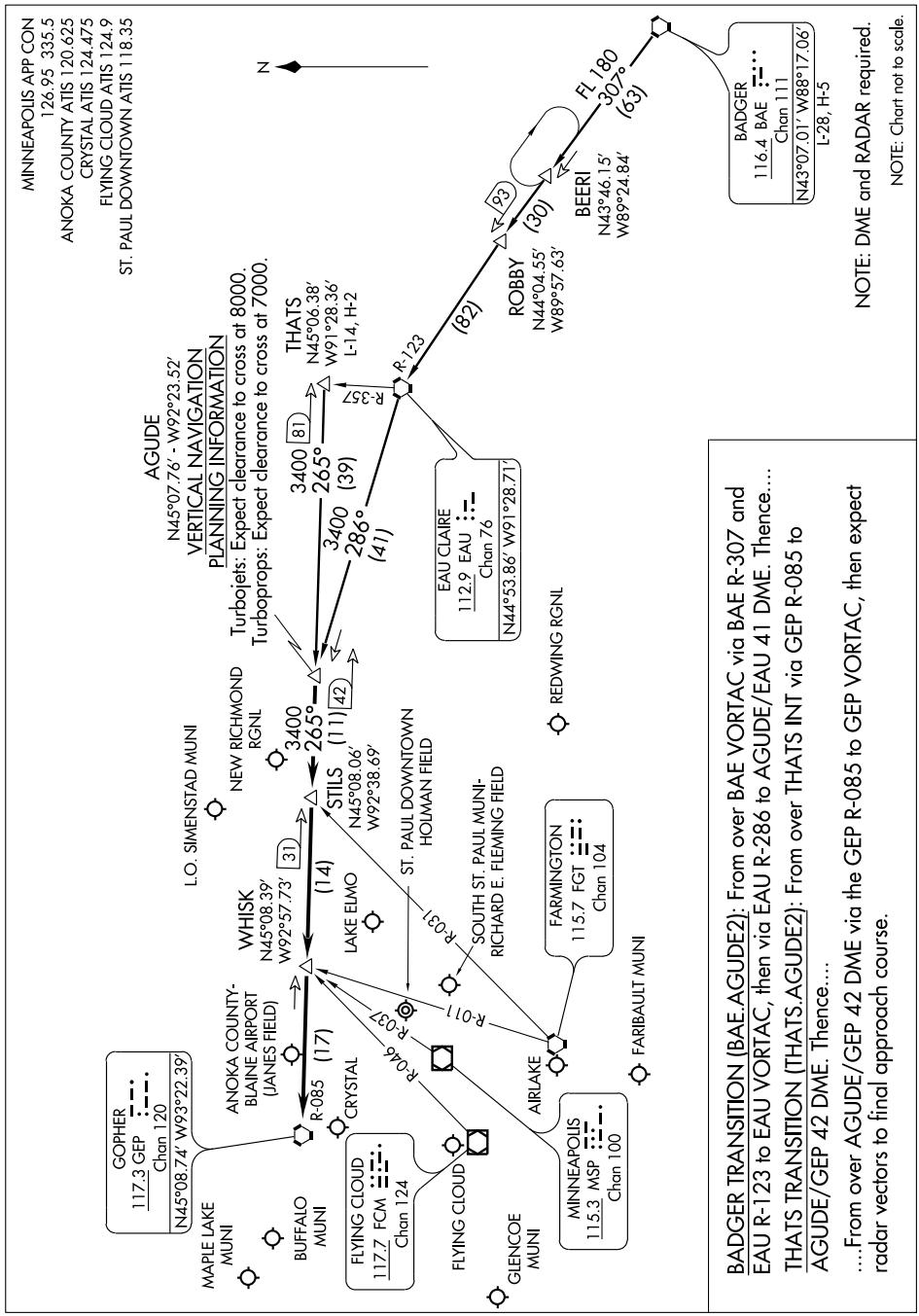
NODINE TRANSITION (ZMBRO3.ODI): From over ZMBRO INT via ODI R-301 to ODI VORTAC.

NOTE: Chart not to scale.

AGUDE TWO ARRIVAL

ST-263 (FAA)

MINNEAPOLIS-ST. PAUL, MINNESOTA



BADGER TRANSITION (BAE.AGUDE2): From over BAE VORTAC via BAE R-307 and EAU R-123 to EAU VORTAC, then via EAU R-286 to AGUDE/EAU 41 DME. Thence....

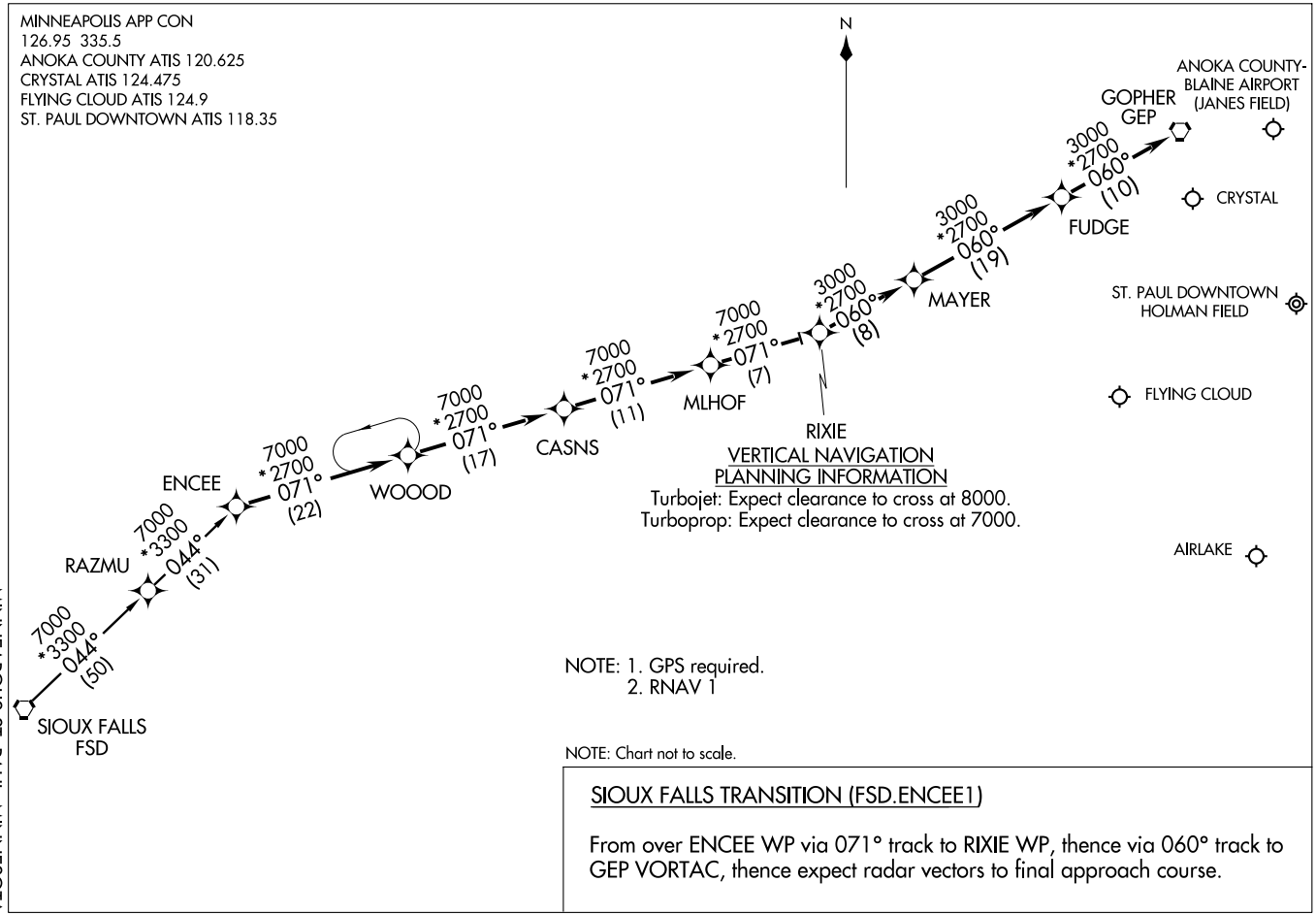
THATS TRANSITION (THATS.AGUDE2): From over THATS INT via GEP R-085 to AGUDE/GEP 42 DME. Thence....

....From over AGUDE/GEP 42 DME via the GEP R-085 to GEP VORTAC, then expect radar vectors to final approach course.

ENCEE ONE ARRIVAL (RNAV)

ST-263 (FAA)

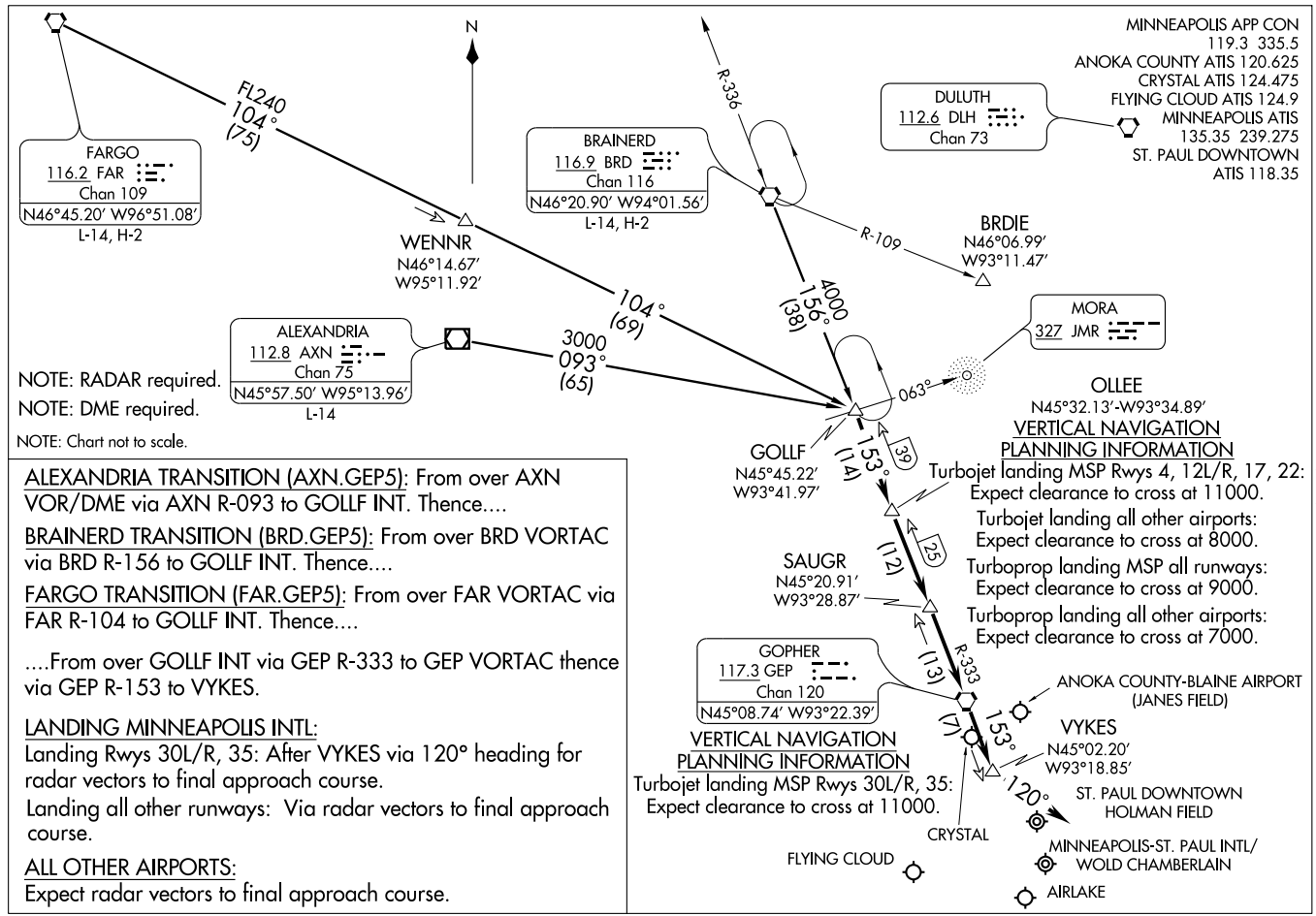
MINNEAPOLIS-ST. PAUL, MINNESOTA



SIOUX FALLS TRANSITION (FSD.ENCEE1)

From over ENCEE WP via 071° track to RIXIE WP, thence via 060° track to GEP VORTAC, thence expect radar vectors to final approach course.

GOPHER FIVE ARRIVAL



NOTE: RADAR required.

NOTE: DME required.

NOTE: Chart not to scale.

VERTICAL NAVIGATION PLANNING INFORMATION

Turbojet landing MSP Rwys 4, 12L/R, 17, 22: Expect clearance to cross at 11000.

Turbojet landing all other airports: Expect clearance to cross at 8000.

Turboprop landing MSP all runways: Expect clearance to cross at 9000.

Turboprop landing all other airports: Expect clearance to cross at 7000.

VERTICAL NAVIGATION PLANNING INFORMATION

Turbojet landing MSP Rwys 30L/R, 35: Expect clearance to cross at 11000.

ALEXANDRIA TRANSITION (AXN.GEP5): From over AXN VOR/DME via AXN R-093 to GOLLF INT. Thence....

BRAINERD TRANSITION (BRD.GEP5): From over BRD VORTAC via BRD R-156 to GOLLF INT. Thence....

FARGO TRANSITION (FAR.GEP5): From over FAR VORTAC via FAR R-104 to GOLLF INT. Thence....

....From over GOLLF INT via GEP R-333 to GEP VORTAC thence via GEP R-153 to VYKES.

LANDING MINNEAPOLIS INTL:

Landing Rwys 30L/R, 35: After VYKES via 120° heading for radar vectors to final approach course.

Landing all other runways: Via radar vectors to final approach course.

ALL OTHER AIRPORTS:

Expect radar vectors to final approach course.

LOC I-LVN	APP CRS	Rwy ldg	3706
108.9	294°	TDZE	958
		Apt Elev	960

ILS or LOC RWY 30

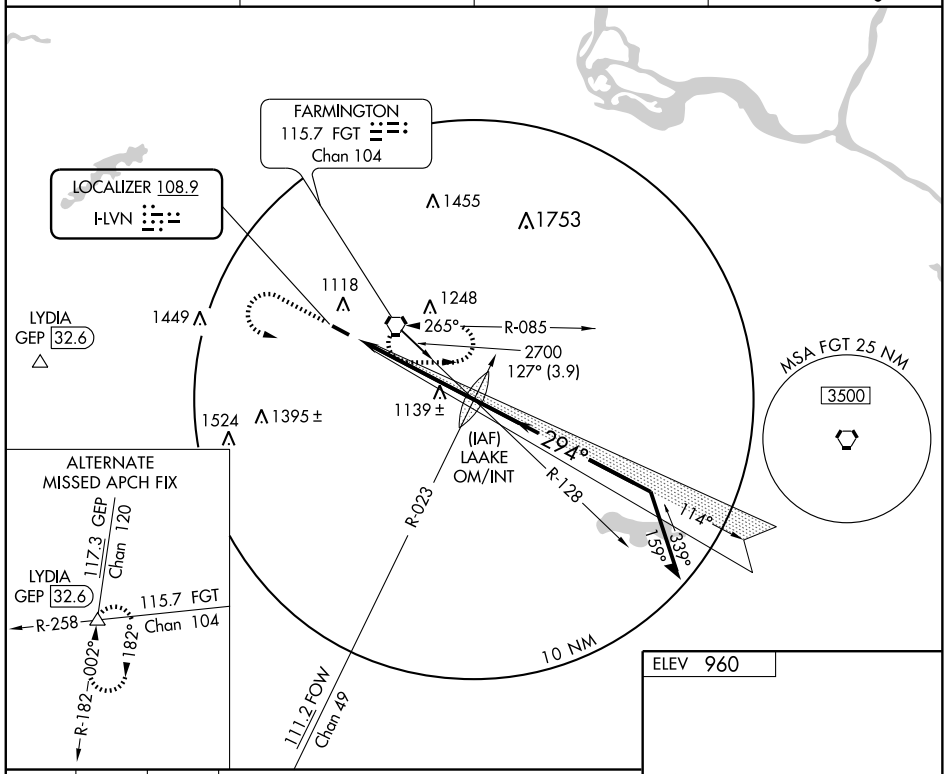
MINNEAPOLIS/AIRLAKE (LVN)

NA Visibility reduction by helicopters NA. For inoperative MALSR, increase S-LOC Cats A and B visibility to 1.

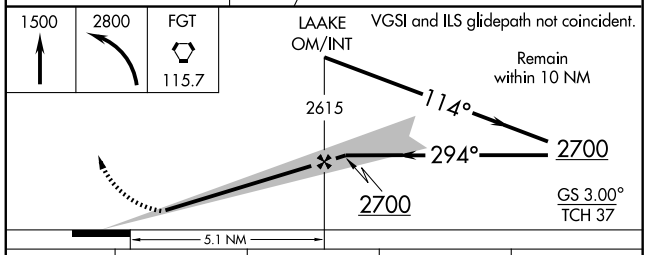
MALSR A5

MISSED APPROACH: Climb to 1500 then climbing left turn to 2800 direct FGT VORTAC and hold.

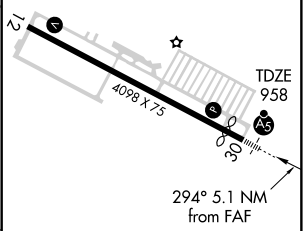
AWOS-3	MINNEAPOLIS APP CON	CLNC DEL	UNICOM
118.0	134.7 284.7	118.95	123.0 (CTAF) L



1500	2800	FGT
		115.7



ELEV 960



CATEGORY	A	B	C	D
S-ILS 30	1208-¾ 250 (300-¾)			
S-LOC 30	1400-¾ 442 (500-¾)			1400-1 442 (500-1)
CIRCLING	1500-1 540 (600-1)			1520-2 560 (600-2)

REIL Rwy 12 L
HIRL Rwy 12-30 L

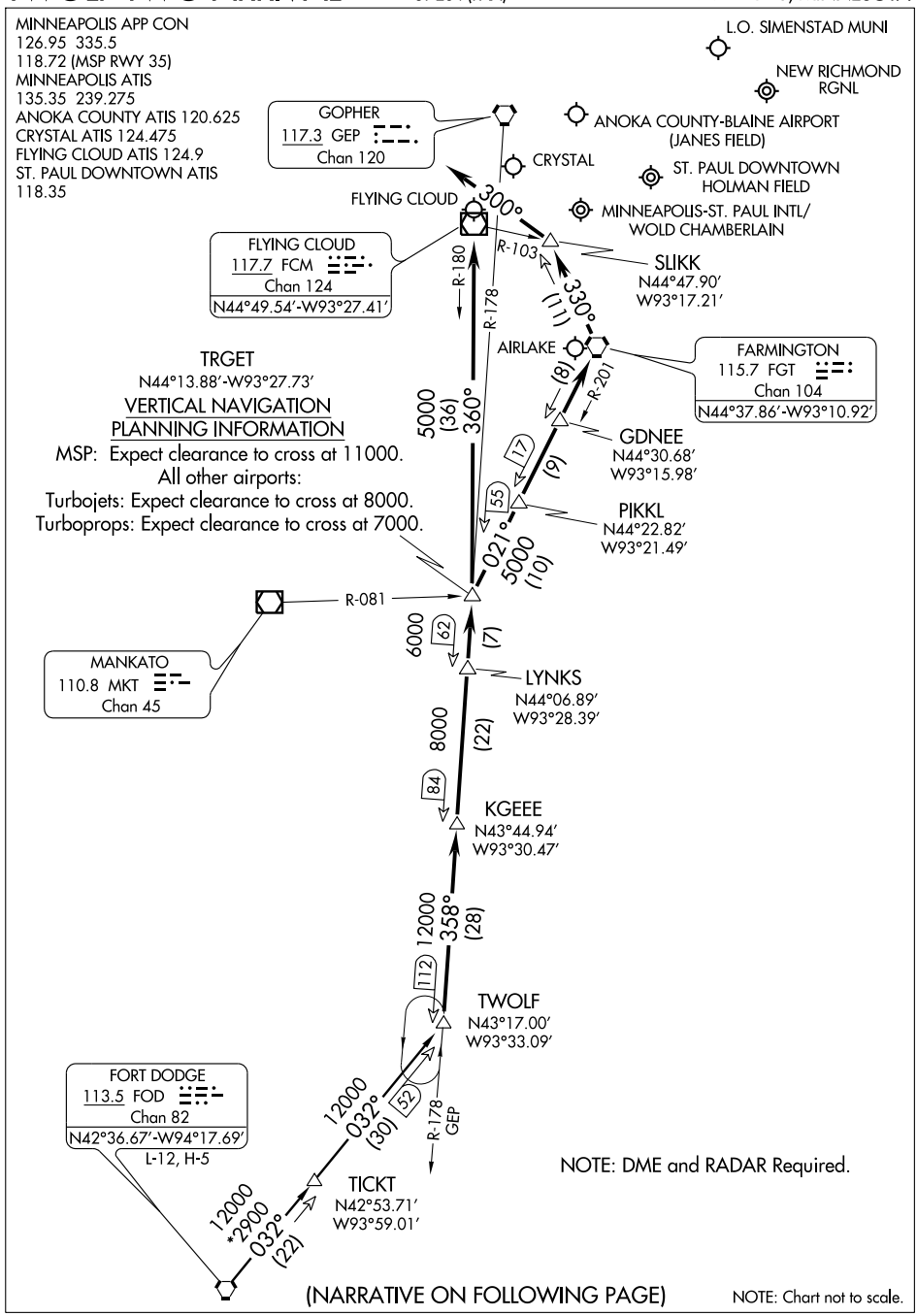
FAF to MAP 5.1 NM					
Knots	60	90	120	150	180
Min:Sec	5:06	3:24	2:33	2:02	1:42

NC-1. 08 APR 2010 to 06 MAY 2010

TWOLF TWO ARRIVAL

ST-264 (FAA)

MINNEAPOLIS, MINNESOTA



TWOLF TWO ARRIVAL

ARRIVAL DESCRIPTION

FORT DODGE TRANSITION (FOD.TWOLF2): From over FOD VORTAC via FOD R-032 to TWOLF/FOD 52 DME, Thence . . . .

....From over TWOLF/GEP 112 DME via GEP R-178 to KGEEE/GEP 84 DME, then as depicted to TRGET INT/GEP 55 DME. Thence....

LANDING MSP RWYS 12L/R: From over TRGET INT via FGT R-201 to FGT VORTAC, then via FGT R-330 to SLIKK INT/FGT 11 DME, then via heading 300° for radar vectors to final approach course.

LANDING MSP RWYS 30L/R, 4, 22, 17, 35: From over TRGET INT via FGT R-201 to FGT VORTAC, then via radar vectors to final approach course.

LANDING ALL OTHER AIRPORTS: From over TRGET INT via FCM R-180 to FCM VOR/DME, then expect radar vectors to final approach course.

NC-1. 08 APR 2010 to 06 MAY 2010

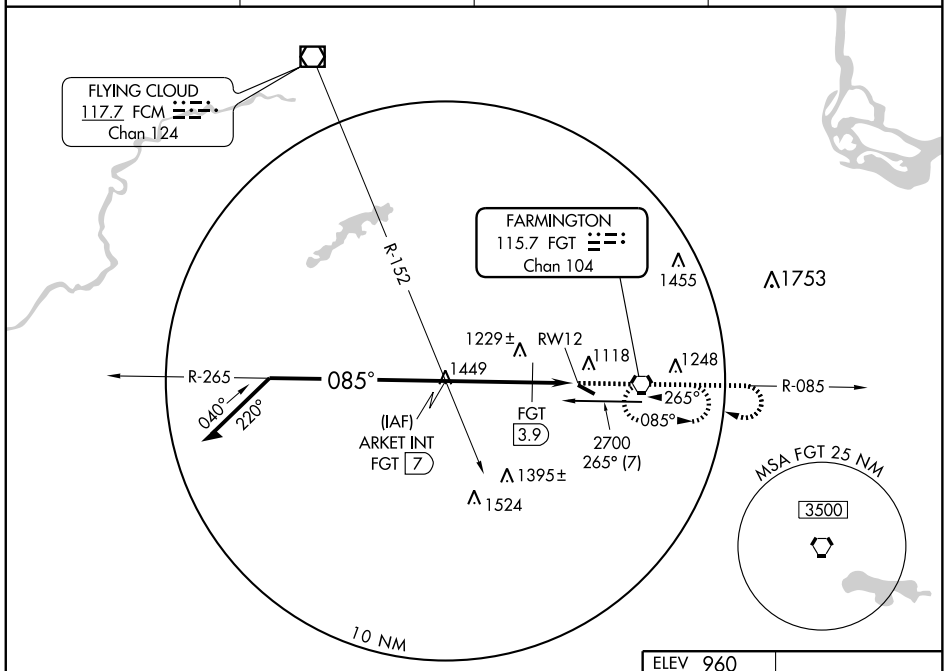
VORTAC FGT	APP CRS	Rwy ldg	4098
115.7	085°	TDZE	960
Chan 104		Apt Elev	960

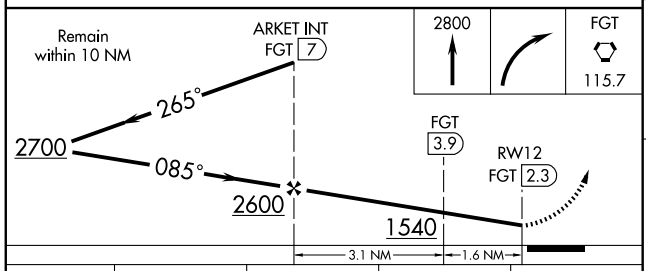
VOR or GPS RWY 12

MINNEAPOLIS/AIRLAKE (LVN)

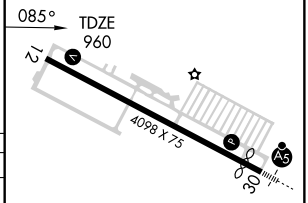
MISSED APPROACH: Climb to 2800 then right turn direct FGT VORTAC and hold.

AWOS-3	MINNEAPOLIS APP CON	CLNC DEL	UNICOM
118.0	134.7 284.7	118.95	123.0 (CTAF) L





ELEV 960



REIL Rwy 12 L
HIRL Rwy 12-30 L

CATEGORY	A	B	C	D
S-12	1540-1	580 (600-1)	1540-1½ 580 (600-1½)	1540-1¾ 580 (600-1¾)
CIRCLING	1540-1	580 (600-1)	1540-1½ 580 (600-1½)	1540-2 580 (600-2)
DME MINIMUMS				
S-12	1440-1	480 (500-1)	1440-1¼ 480 (500-1¼)	1440-1½ 480 (500-1½)
CIRCLING	1500-1	540 (600-1)	1500-1½ 540 (600-1½)	1520-2 560 (600-2)

FAF to MAP 4.7 NM

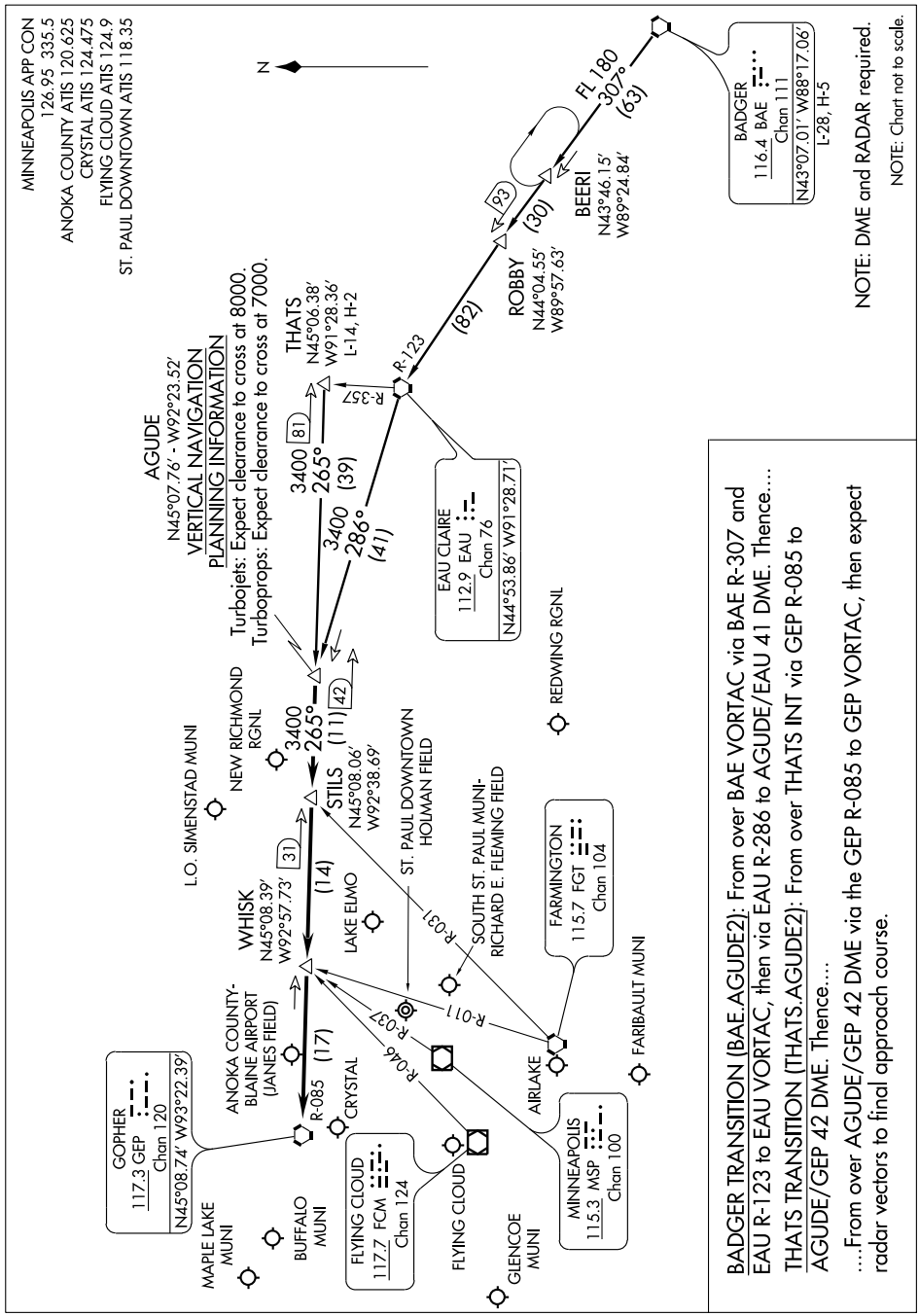
Knots	60	90	120	150	180
Min:Sec	4:42	3:08	2:21	1:53	1:34

NC-1. 08 APR 2010 to 06 MAY 2010

AGUDE TWO ARRIVAL

ST-263 (FAA)

MINNEAPOLIS-ST. PAUL, MINNESOTA



BADGER TRANSITION (BAE.AGUDE2): From over BAE VORTAC via BAE R-307 and EAU R-123 to EAU VORTAC, then via EAU R-286 to AGUDE/EAU 41 DME. Thence....

THATS TRANSITION (THATS.AGUDE2): From over THATS INT via GEP R-085 to AGUDE/GEP 42 DME. Thence....

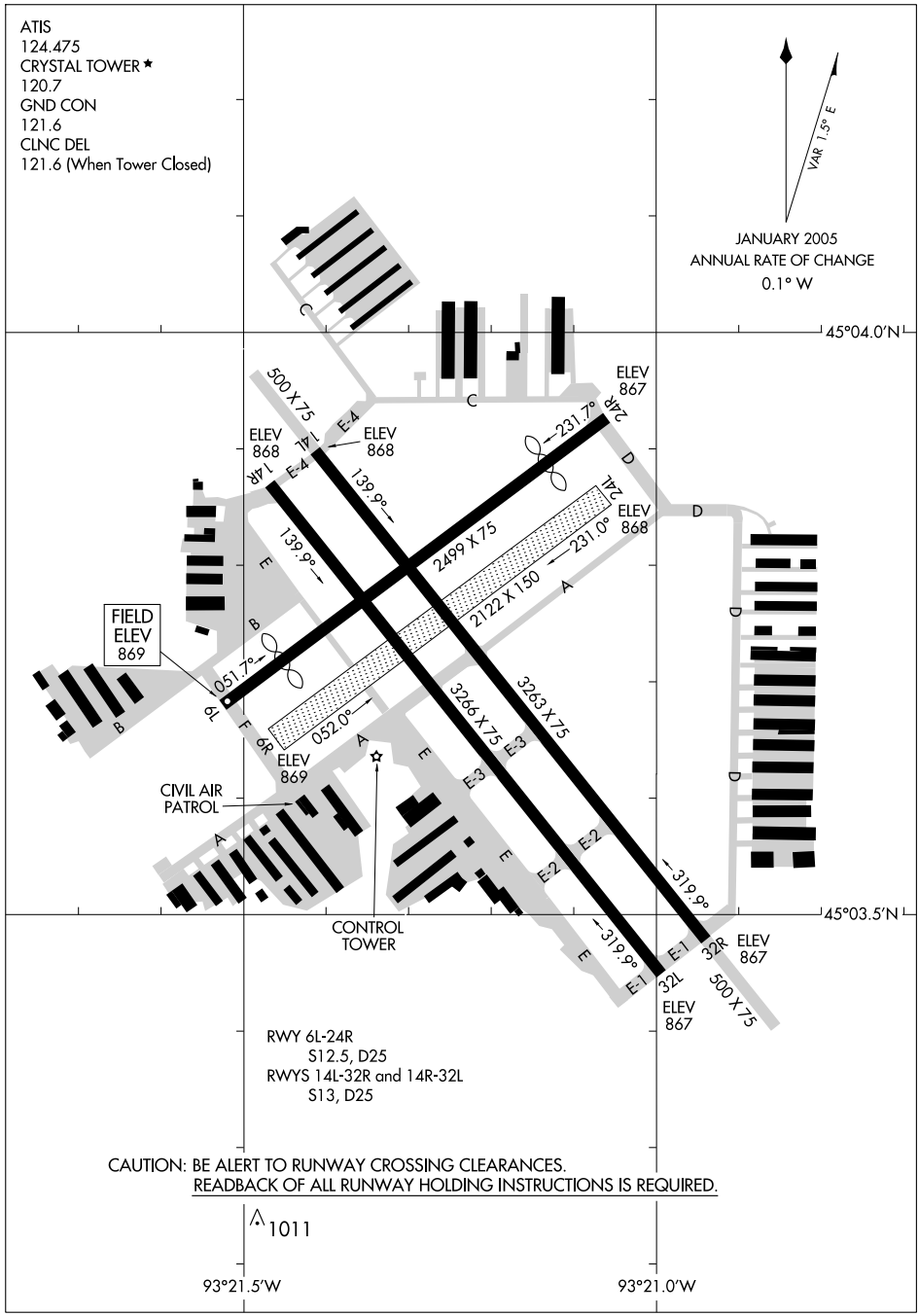
....From over AGUDE/GEP 42 DME via the GEP R-085 to GEP VORTAC, then expect radar vectors to final approach course.

AIRPORT DIAGRAM

AL-5158 (FAA)

MINNEAPOLIS/CRYSTAL (MIC)
MINNEAPOLIS, MINNESOTA

ATIS
124.475
CRYSTAL TOWER ★
120.7
GND CON
121.6
CLNC DEL
121.6 (When Tower Closed)

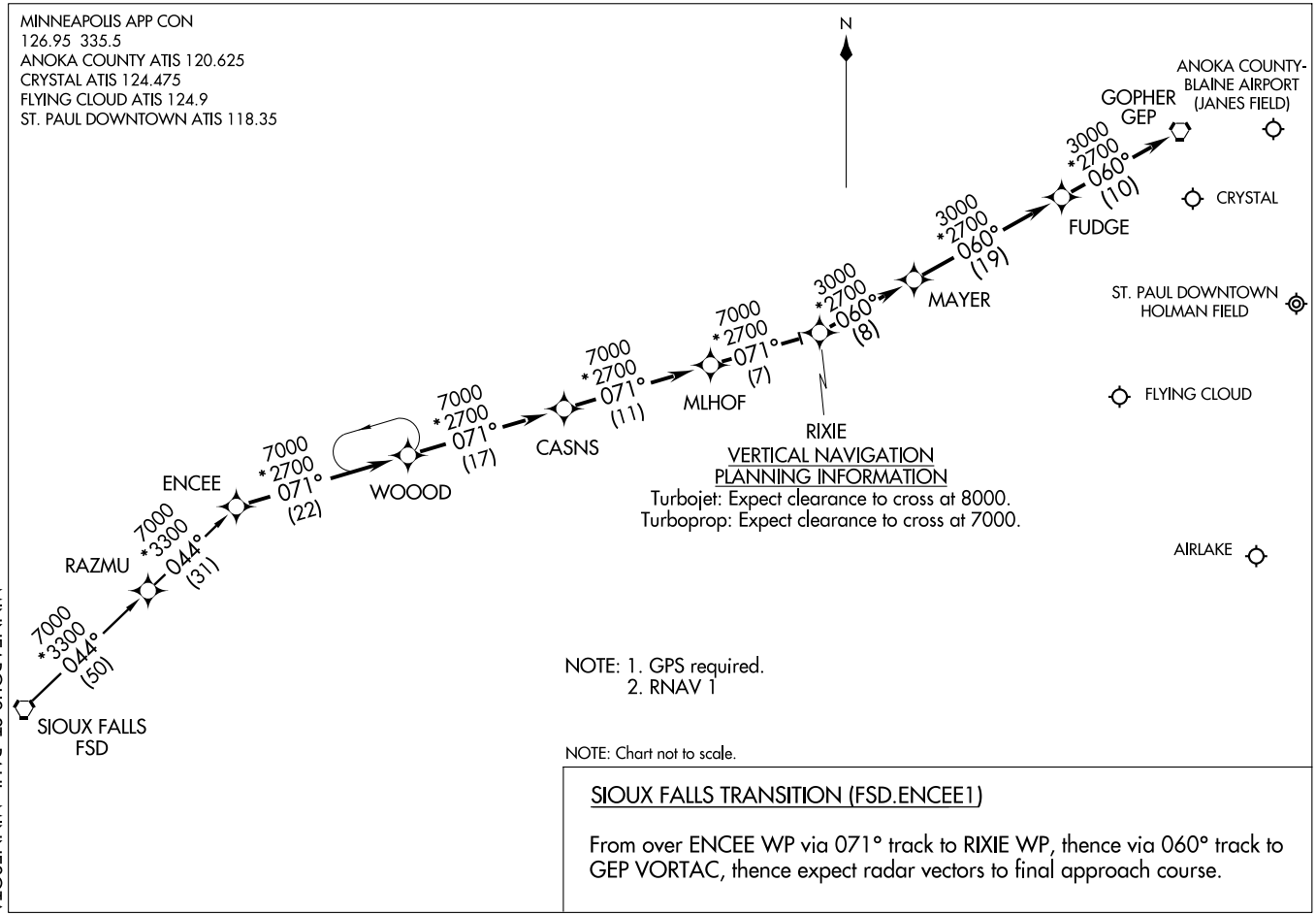


CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

ENCEE ONE ARRIVAL (RNAV)

ST-263 (FAA)

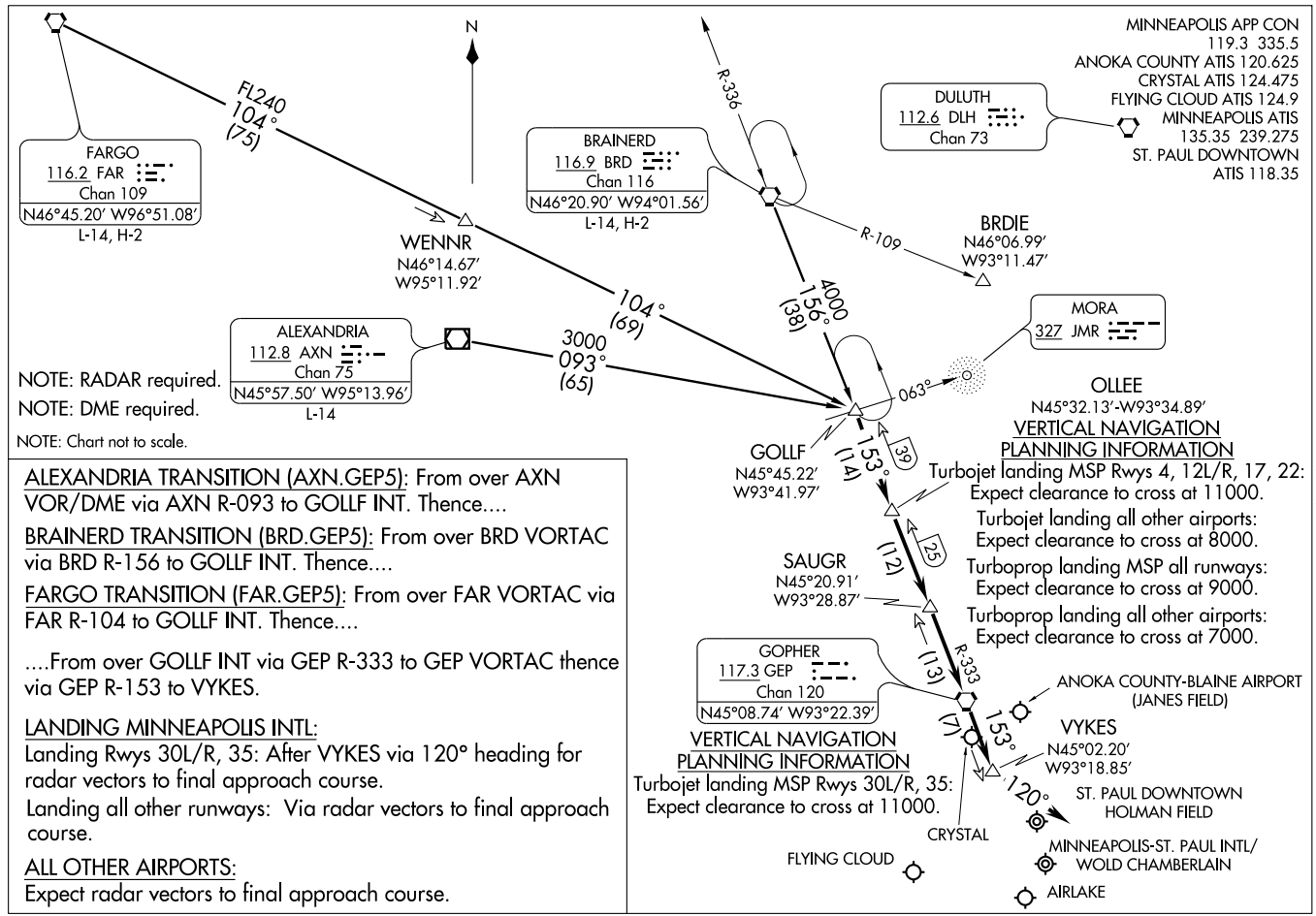
MINNEAPOLIS-ST. PAUL, MINNESOTA



SIOUX FALLS TRANSITION (FSD.ENCEE1)

From over ENCEE WP via 071° track to RIXIE WP, thence via 060° track to GEP VORTAC, thence expect radar vectors to final approach course.

GOPHER FIVE ARRIVAL



NOTE: RADAR required.

NOTE: DME required.

NOTE: Chart not to scale.

VERTICAL NAVIGATION PLANNING INFORMATION

Turbojet landing MSP Rwys 4, 12L/R, 17, 22: Expect clearance to cross at 11000.

Turbojet landing all other airports: Expect clearance to cross at 8000.

Turboprop landing MSP all runways: Expect clearance to cross at 9000.

Turboprop landing all other airports: Expect clearance to cross at 7000.

VERTICAL NAVIGATION PLANNING INFORMATION

Turbojet landing MSP Rwys 30L/R, 35: Expect clearance to cross at 11000.

ALEXANDRIA TRANSITION (AXN.GEP5): From over AXN VOR/DME via AXN R-093 to GOLLF INT. Thence....

BRAINERD TRANSITION (BRD.GEP5): From over BRD VORTAC via BRD R-156 to GOLLF INT. Thence....

FARGO TRANSITION (FAR.GEP5): From over FAR VORTAC via FAR R-104 to GOLLF INT. Thence....

....From over GOLLF INT via GEP R-333 to GEP VORTAC thence via GEP R-153 to VYKES.

LANDING MINNEAPOLIS INTL:

Landing Rwys 30L/R, 35: After VYKES via 120° heading for radar vectors to final approach course.

Landing all other runways: Via radar vectors to final approach course.

ALL OTHER AIRPORTS:

Expect radar vectors to final approach course.

APP CRS	Rwy ldg	3263
139°	TDZE	868
	Apt Elev	869

RNAV (GPS) RWY 14L

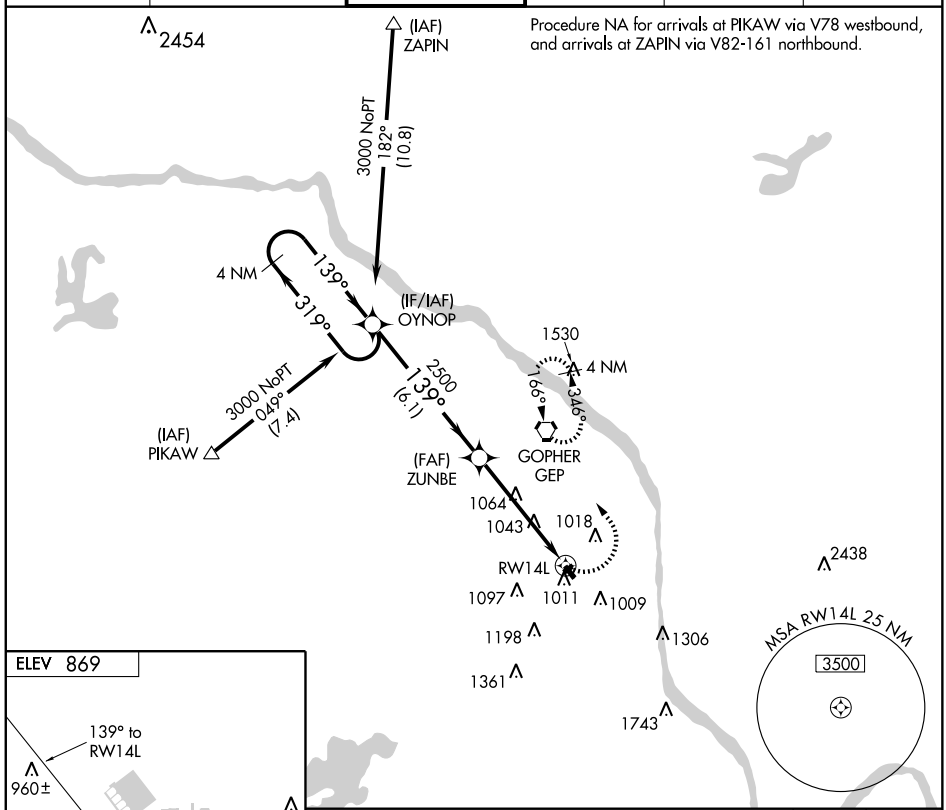
MINNEAPOLIS/ CRYSTAL (MIC)

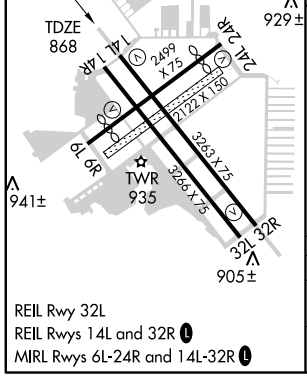
DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.
When local altimeter setting not received, use Anoka County-Blaine Airport (Janes Field) altimeter setting and increase all MDA 80 feet, increase circling Cat D visibility ¼ mile.

MISSED APPROACH: Climbing left turn to 2700 direct GEP VORTAC and hold.

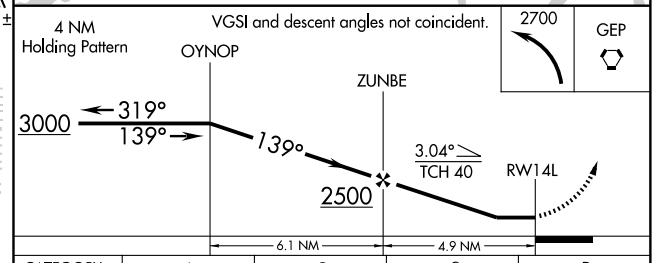
ATIS	MINNEAPOLIS APP CON	CRYSTAL TOWER	GND CON	CLNC DEL	UNICOM
124.475	126.5	120.7 (CTAF) L	121.6	121.6	122.95

Procedure NA for arrivals at PIKAW via V78 westbound, and arrivals at ZAPIN via V82-161 northbound.





REIL Rwy 32L
REIL Rwys 14L and 32R L
MIRL Rwys 6L-24R and 14L-32R L



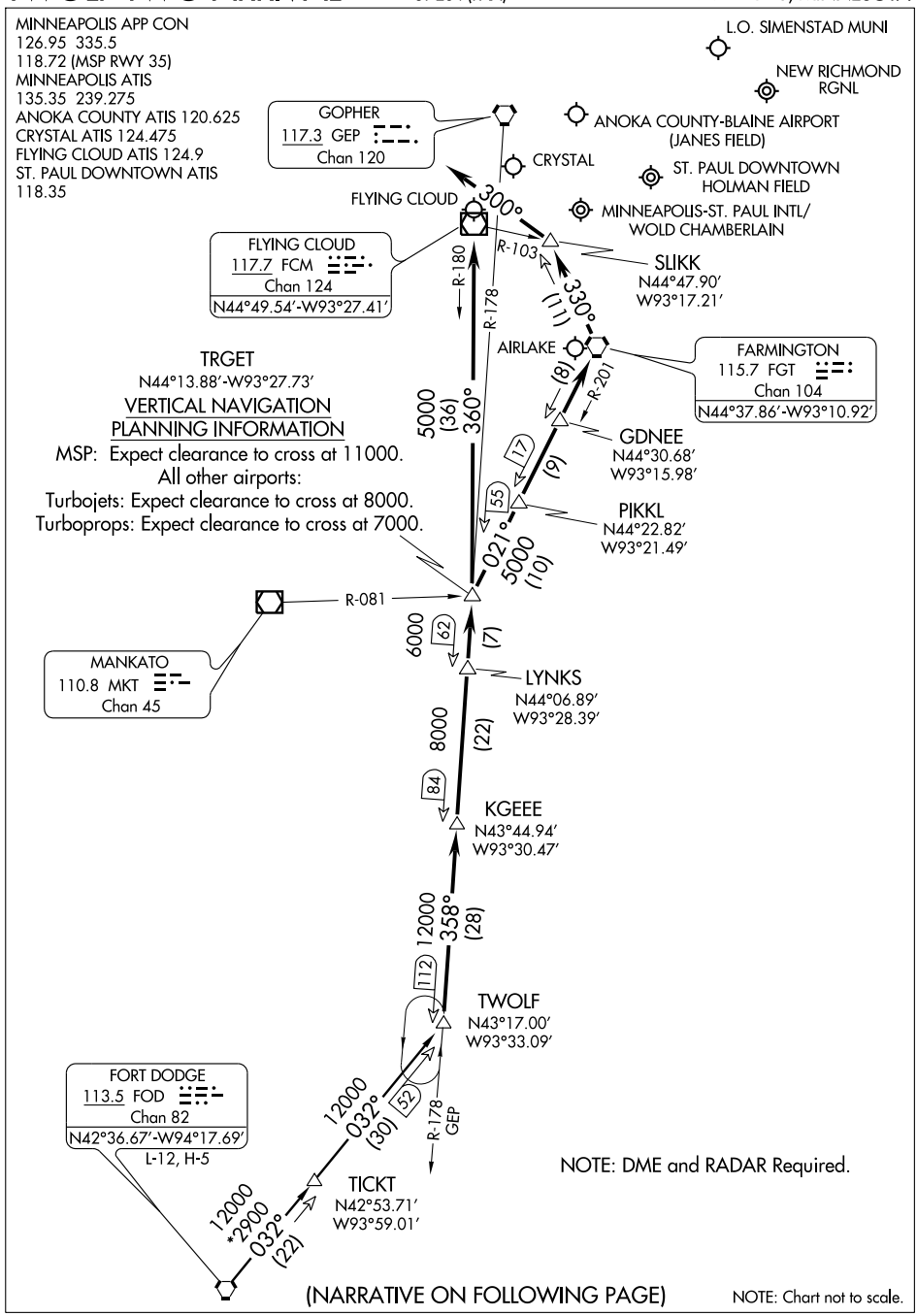
CATEGORY	A	B	C	D
LNAV MDA	1380-1 512 (600-1)		1380-1½ 512 (600-1½)	1380-1¾ 512 (600-1¾)
CIRCLING	1380-1 511 (600-1)		1380-1½ 511 (600-1½)	1460-2 591 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

TWOLF TWO ARRIVAL

ST-264 (FAA)

MINNEAPOLIS, MINNESOTA



TWOLF TWO ARRIVAL

ARRIVAL DESCRIPTION

FORT DODGE TRANSITION (FOD.TWOLF2): From over FOD VORTAC via FOD R-032 to TWOLF/FOD 52 DME, Thence . . . .

....From over TWOLF/GEP 112 DME via GEP R-178 to KGEEE/GEP 84 DME, then as depicted to TRGET INT/GEP 55 DME. Thence....

LANDING MSP RWYS 12L/R: From over TRGET INT via FGT R-201 to FGT VORTAC, then via FGT R-330 to SLIKK INT/FGT 11 DME, then via heading 300° for radar vectors to final approach course.

LANDING MSP RWYS 30L/R, 4, 22, 17, 35: From over TRGET INT via FGT R-201 to FGT VORTAC, then via radar vectors to final approach course.

LANDING ALL OTHER AIRPORTS: From over TRGET INT via FCM R-180 to FCM VOR/DME, then expect radar vectors to final approach course.

NC-1. 08 APR 2010 to 06 MAY 2010

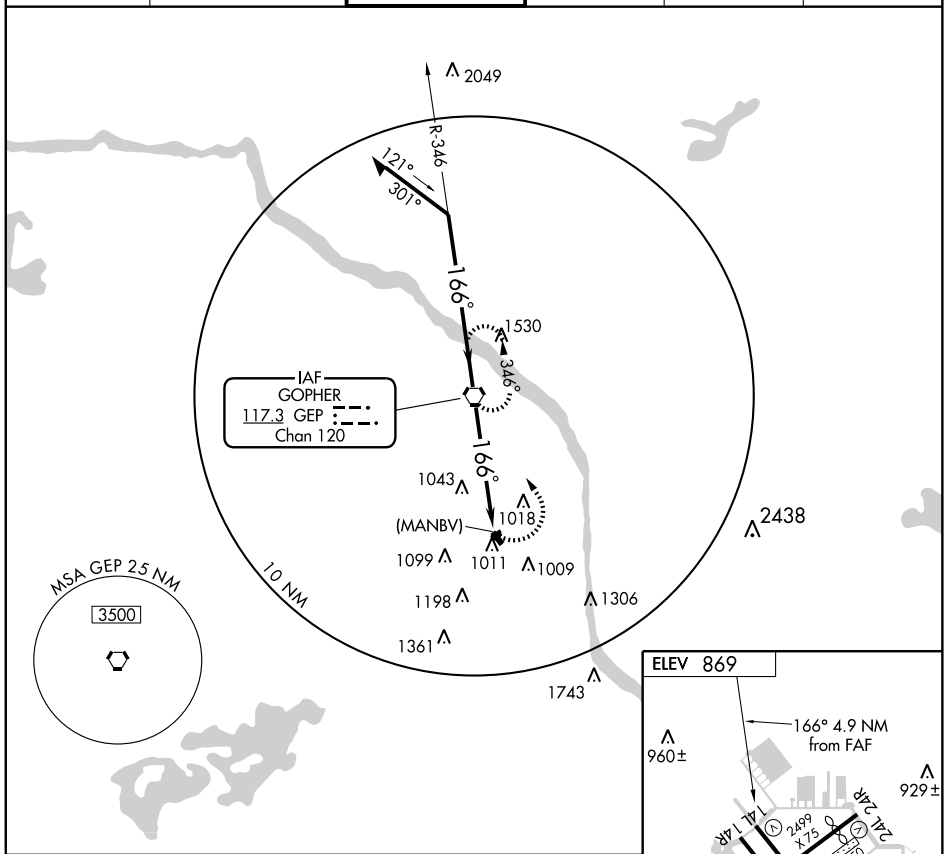
VORTAC GEP 117.3 Chan 120	APP CRS 166°	Rwy ldg N/A TDZE N/A Apt Elev 869

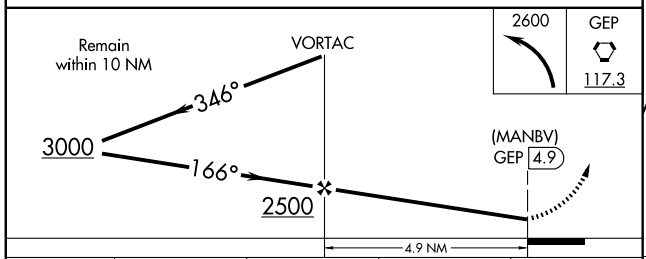
VOR or GPS-A

MINNEAPOLIS/ CRYSTAL (MIC)

MISSED APPROACH: Climbing left turn to 2600 direct GEP VORTAC and hold.

ATIS	MINNEAPOLIS APP CON	CRYSTAL TOWER	GND CON	CLNC DEL	UNICOM
124.475	126.5	120.7 (CTAF) L	121.6	121.6	122.95





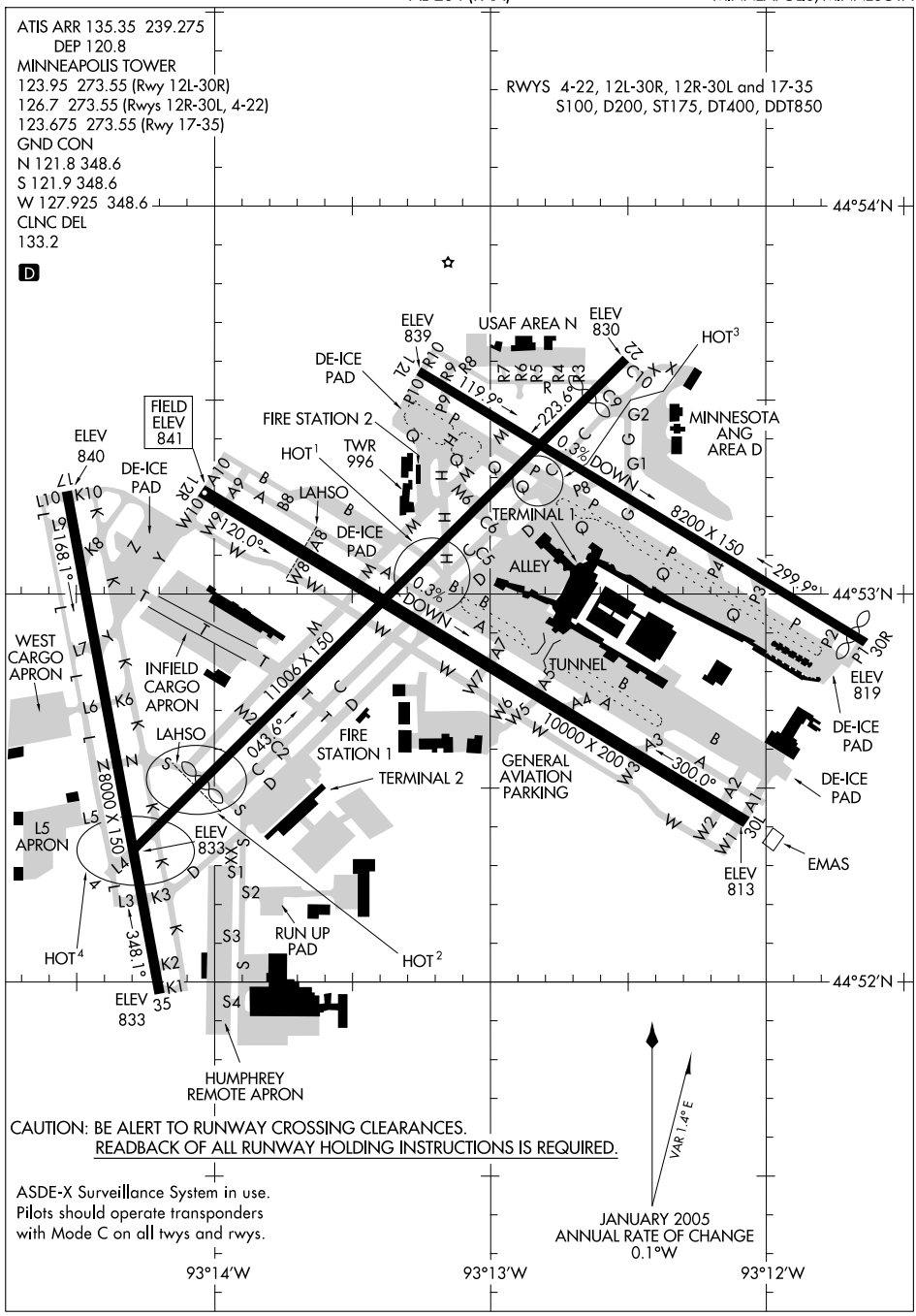
CATEGORY	A	B	C	D
CIRCLING	1360-1 491 (500-1)			1460-2 591 (600-2)

FAF to MAP 4.9 NM					
Knots	60	90	120	150	180
Min:Sec	4:54	3:16	2:27	1:58	1:38

NC-1. 08 APR 2010 to 06 MAY 2010

AIRPORT DIAGRAM

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)
AL-264 (FAA)
MINNEAPOLIS, MINNESOTA



CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

ASDE-X Surveillance System in use.
Pilots should operate transponders with Mode C on all twys and rwys.

NC-1, 08 APR 2010 to 06 MAY 2010

LOC/DME I-MSP	APP CRS	Rwy ldg 10000
110.3	299°	TDZE 823
Chan 40		Apt Elev 841

CONVERGING ILS RWY 30L

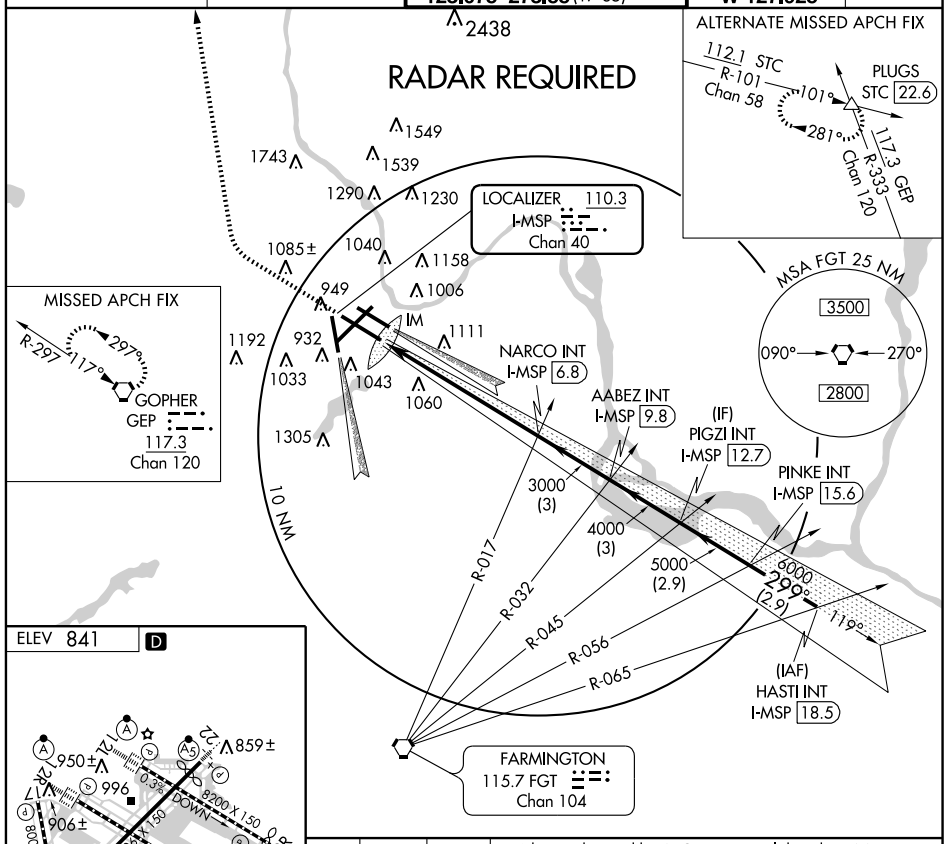
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

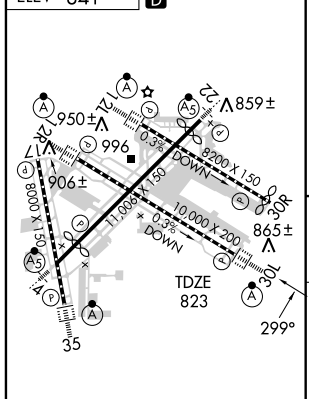
T NA Simultaneous approach authorized with CONVERGING ILS Rwy 35.
RADAR required.
For inoperative ALSF, increase visibility, all Cats to 1¼.

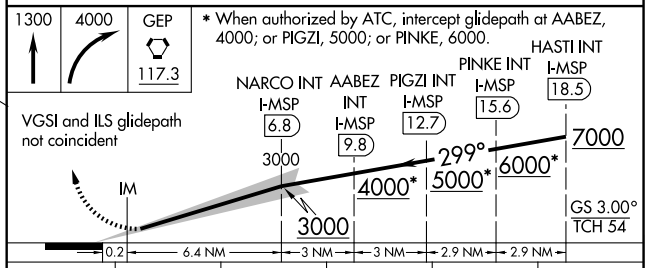
ALSF-2

MISSED APPROACH: Climb to 1300 then climbing right turn to 4000 direct GEP VORTAC and hold.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275	119.3 335.5	123.95 273.55 (12L-30R)	N 121.8 348.6	133.2
DEP 120.8		126.7 273.55 (12R-30L, 4-22)	S 121.9 348.6	
		123.675 273.55 (17-35)	W 127.925	







HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35

CATEGORY	A	B	C	D	E
S-ILS 30L	1173/40 350 (400-¾)				

NC-1. 08 APR 2010 to 06 MAY 2010

CONVERGING ILS RWY 30R

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

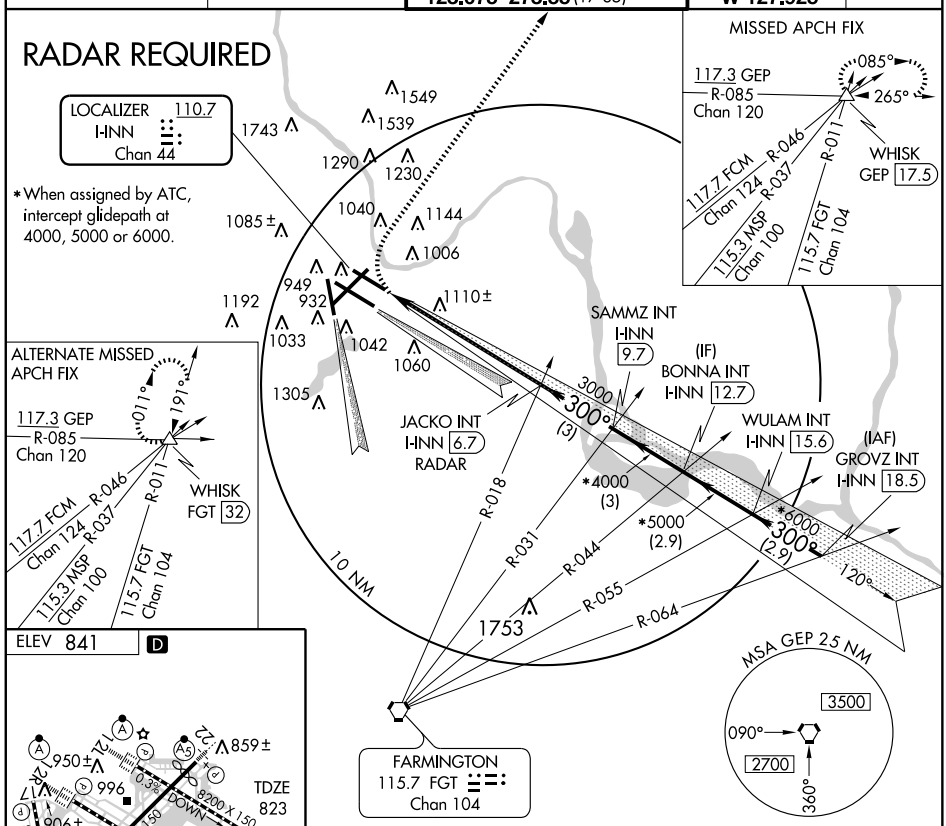
LOC/DME I-INN	APP CRS	Rwy ldg	8000
110.7	300°	TDZE	823
Chan 44		Apt Elev	841

T
NA

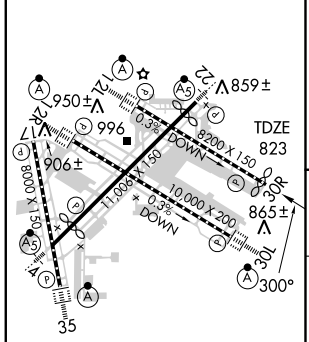
Simultaneous approach authorized with CONVERGING ILS Rwy 35.

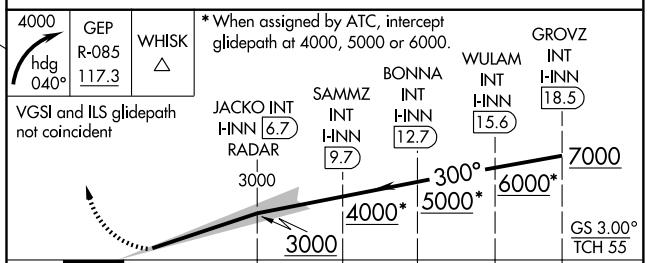
MISSED APPROACH: Climbing right turn to 4000 via heading 040° and GEP VORTAC R-085 to WHISK INT/GEP 17.5 DME and hold.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275	119.3 335.5	123.95 273.55 (12L-30R)	N 121.8 348.6	133.2
DEP 120.8		126.7 273.55 (12R-30L, 4-22)	S 121.9 348.6	
		123.675 273.55 (17-35)	W 127.925	



ELEV 841 D





CATEGORY	A	B	C	D	E
S-ILS 30R	1273-1½ 450 (500-1½)				

HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35

NC-1. 08 APR 2010 to 06 MAY 2010

CONVERGING ILS RWY 35

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

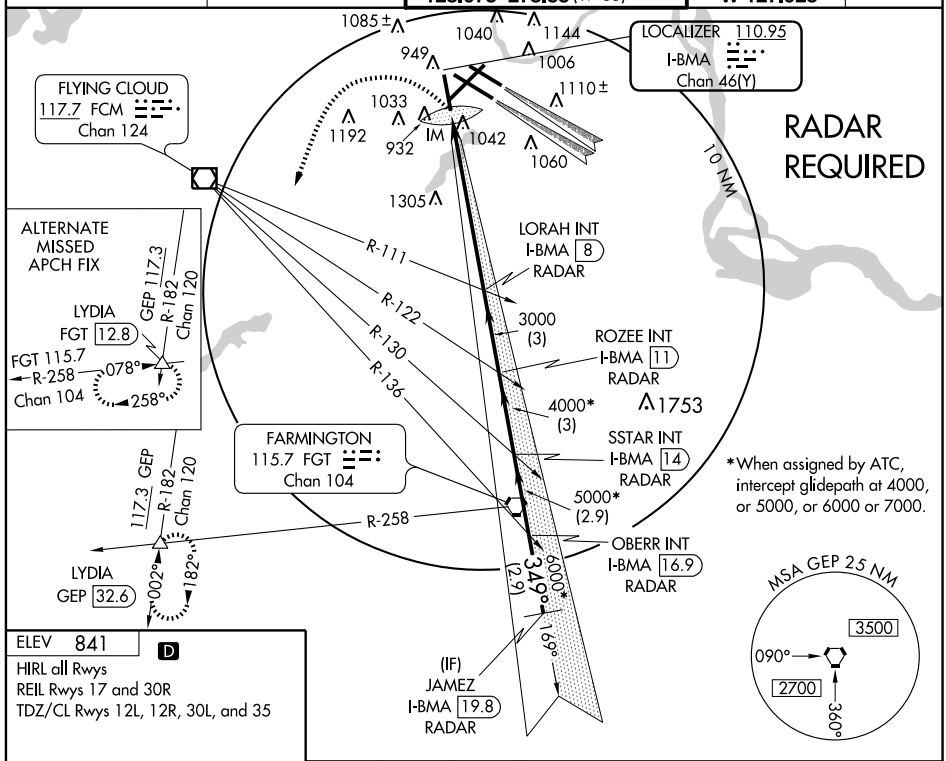
LOC/DME I-BMA	APP CRS	Rwy ldg	8000
110.95	349°	TDZE	834
Chan 46 (Y)		Apt Elev	841

T A NA — Inoperative table does not apply. No autoland on CONVERGING ILS RWY 35. Simultaneous approach authorized with CONVERGING ILS RWY 30L and CONVERGING ILS RWY 30R.

ALSF-2 (A)

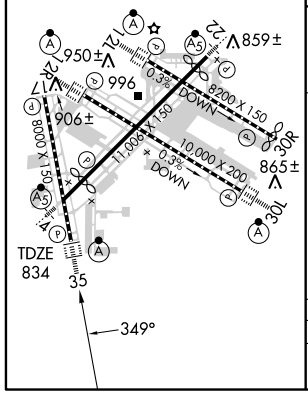
MISSED APPROACH: Climbing left turn to 5000 via heading 240° and GEP R-182 to LYDIA INT/GEP 32.6 DME and hold.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275	119.3 335.5	123.95 273.55 (12L-30R)	N 121.8 348.6	133.2
DEP 120.8		126.7 273.55 (12R-30L, 4-22)	S 121.9 348.6	
		123.675 273.55 (17-35)	W 127.925	



ELEV 841 D

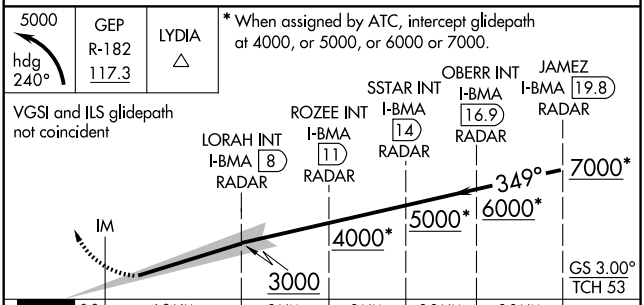
HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35



5000	GEP	LYDIA
hdg 240°	R-182 117.3	△

* When assigned by ATC, intercept glidepath at 4000, or 5000, or 6000 or 7000.

VGSI and ILS glidepath not coincident



CATEGORY	A	B	C	D
S-ILS 35	1684-3 850 (900-3)			

NC-1. 08 APR 2010 to 06 MAY 2010

COULT THREE DEPARTURE

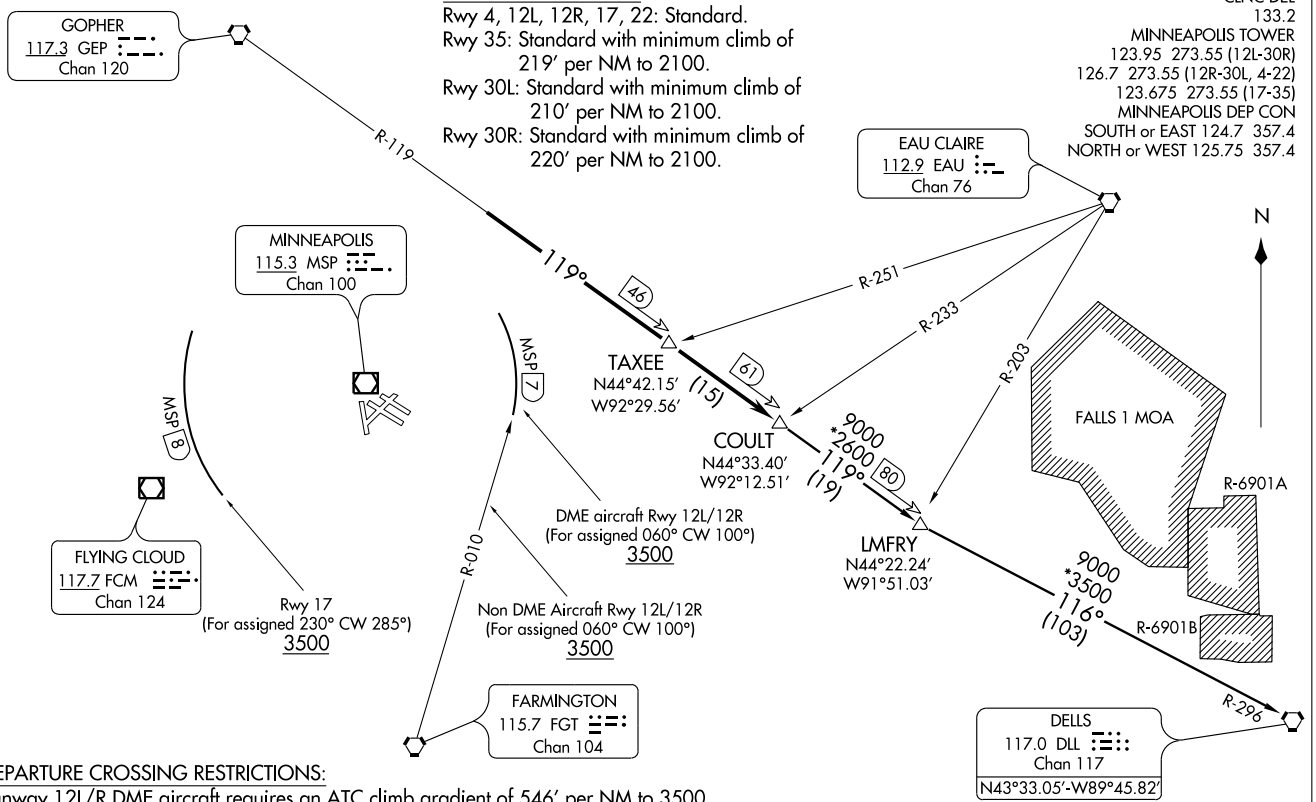
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN(MSP)
MINNEAPOLIS, MINNESOTA

SI-264 (FAA)

[COULT3.COULT] 10098

ATIS DEP 120.8
CLNC DEL
133.2
MINNEAPOLIS TOWER
123.95 273.55 (12L-30R)
126.7 273.55 (12R-30L, 4-22)
123.675 273.55 (17-35)
MINNEAPOLIS DEP CON
SOUTH or EAST 124.7 357.4
NORTH or WEST 125.75 357.4

TAKE-OFF MINIMUMS:
Rwy 4, 12L, 12R, 17, 22: Standard.
Rwy 35: Standard with minimum climb of 219′ per NM to 2100.
Rwy 30L: Standard with minimum climb of 210′ per NM to 2100.
Rwy 30R: Standard with minimum climb of 220′ per NM to 2100.



DEPARTURE CROSSING RESTRICTIONS:
Runway 12L/R DME aircraft requires an ATC climb gradient of 546′ per NM to 3500.
Runway 12L/R Non-DME aircraft requires an ATC climb gradient of 594′ per NM to 3500.
Runway 17 requires an ATC climb gradient of 403′ per NM to 3500.

(NARRATIVE ON FOLLOWING PAGE)

NOTE: RADAR required.
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF ALL RUNWAYS: Fly assigned heading for radar vectors to intercept GEP R-119 to COULT INT/GEP 61 DME. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude.

DME EQUIPPED AIRCRAFT RWY 12L/R DEPARTURES: For assigned headings from 060° clockwise to 100°, cross MSP 7 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

NON-DME EQUIPPED AIRCRAFT RWY 12L/R DEPARTURES: For assigned headings from 060° clockwise to 100°, cross FGT R-010 at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

TAKE-OFF RUNWAY 17: For assigned heading 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

TAKE-OFF RUNWAYS 4, 22, 30L/R, 35: Initially assigned heading. Thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

DELLS TRANSITION (COULT3.DLL): From over COULT INT via GEP R-119 to LMFRY, then via DLL R-296 to DLL VORTAC.

TAKE-OFF OBSTACLE NOTES:

RWY 4: Multiple trees beginning 800′ from DER, 264′ left of centerline, up to 75′ AGL/921′ MSL.
Rod on building 2528′ from DER, 1175′ left of centerline, 78′ AGL/922′ MSL.
Fence 803′ from DER, 585′ left of centerline, 15′ AGL/860′ MSL.
Antenna on OL building 456′ from DER, 319′ left of centerline, 13′ AGL/850′ MSL.
Light poles 1932′ from DER, 718′ left of centerline, 45′ AGL/885′ MSL.
Stack 4535′ from DER, 481′ left of centerline, 139′ AGL/949′ MSL.

RWY 17: Antenna 1272′ from DER, 562 right of centerline, 57′ AGL/891′ MSL.
Pole 409′ from DER, 530′ right of centerline, 29′ AGL/866′ MSL.
Wind direction indicator on building 2619′ from DER, 881′ left of centerline, 97′ AGL/918′ MSL.
Building 2619′ from DER, 859′ left of centerline, 84′ AGL/905′ MSL.
Light 1176′ from DER, 291′ right of centerline, 11′ AGL/875′ MSL.
Tree 2619′ from DER, on centerline, 79′ AGL/900′ MSL.

RWY 22: Tree 2906′ from DER, 833′ right of centerline, 94′ AGL/934′ MSL.
Hopper 1717′ from DER, 456′ left of centerline, 48′ AGL/888′ MSL.

RWY 30L: Multiple trees beginning 1113′ from DER, 701′ left of centerline , up to 80′ AGL/919′ MSL.
Tree 1230′ from DER, 633′ right of centerline, 30′ AGL/877′ MSL.
Ground 28′ from DER, 490′ right of centerline 0′ AGL/844′ MSL.

RWY 30R: Building 1056′ from DER, 198′ left of centerline, 13′ AGL/853′ MSL.
Multiple trees beginning 3010′ from DER, 334′ left of centerline, up to 94′ AGL/940′ MSL.
Light pole 1849′ from DER, 698′ right of centerline, 17′ AGL/871′ MSL.
Fence 1327′ from DER, 667′ right of centerline, 8′ AGL/857′ MSL.
Tree 3703′ from DER, 350′ right of centerline, 67′ AGL/914′ MSL.
Rod on pole 3143′ from DER, 47′ right of centerline, 38′ AGL/898′ MSL.

RWY 35: Tree 175′ from DER, 398′ right of centerline, 73′ AGL/883′ MSL.
Multiple trees beginning 1989′ from DER, 351′ left of centerline, up to 65′ AGL/902′ MSL.
Multiple buildings beginning 5.5 NM from DER, 1787′ left of centerline, up to 811′ AGL/1743′ MSL.

RWY 12R: Multiple trees beginning 1477′ from DER, 407′ left of centerline, up to 86′ AGL/851′ MSL.
Multiple trees beginning 1426′ from DER, 124′ right of centerline, up to 111′ AGL/847′ MSL.
Light pole 1408′ from DER, 746′ right of centerline, 85′ AGL/843′ MSL.
Radar reflector 983′ from DER, 32′ left of centerline, 15′ AGL/829′ MSL.
Pipe on building, 826′ from DER, 576′ left of centerline, 10′ AGL/825′ MSL.
OL on LOC 766′ from DER, on centerline, 7′ AGL/821′ MSL.

NC-1, 08 APR 2010 to 06 MAY 2010

DARWIN THREE DEPARTURE

(DWN3.DWN) 10042

MINNEAPOLIS-ST. PAUL INTL/WOLD-CHAMBERLAIN (MSP)

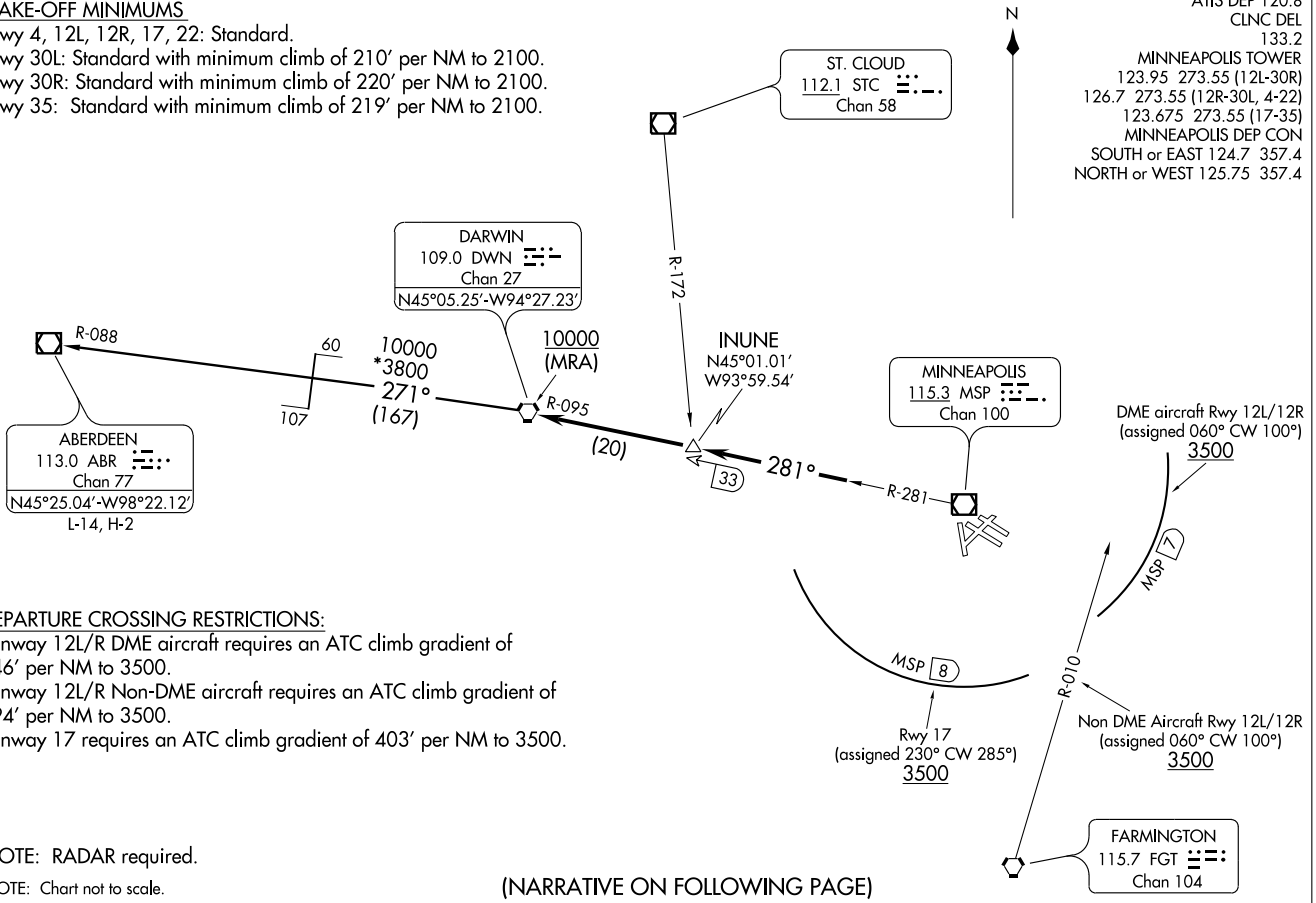
SL-264 (FAA)

MINNEAPOLIS, MINNESOTA

TAKE-OFF MINIMUMS

Rwy 4, 12L, 12R, 17, 22: Standard.
Rwy 30L: Standard with minimum climb of 210′ per NM to 2100.
Rwy 30R: Standard with minimum climb of 220′ per NM to 2100.
Rwy 35: Standard with minimum climb of 219′ per NM to 2100.

ATIS DEP 120.8
CLNC DEL
133.2
MINNEAPOLIS TOWER
123.95 273.55 (12L-30R)
126.7 273.55 (12R-30L, 4-22)
123.675 273.55 (17-35)
MINNEAPOLIS DEP CON
SOUTH or EAST 124.7 357.4
NORTH or WEST 125.75 357.4



DEPARTURE CROSSING RESTRICTIONS:

Runway 12L/R DME aircraft requires an ATC climb gradient of 546′ per NM to 3500.
Runway 12L/R Non-DME aircraft requires an ATC climb gradient of 594′ per NM to 3500.
Runway 17 requires an ATC climb gradient of 403′ per NM to 3500.

NOTE: RADAR required.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF ALL RUNWAYS: Fly assigned heading for radar vectors to intercept MSP R-281 and DWN R-095 to DWN VORTAC. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude.

DME EQUIPPED AIRCRAFT RWY 12L/R DEPARTURES: For assigned headings from 060° clockwise to 100°, cross MSP 7 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

NON DME EQUIPPED AIRCRAFT RWY 12L/R DEPARTURES: For assigned headings from 060° clockwise to 100°, cross FGT R-010 at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

TAKE-OFF RUNWAY 17: For assigned headings from 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

TAKE-OFF RUNWAYS 4, 22, 30L/R, 35: Initially assigned heading, thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

ABERDEEN TRANSITION (DWN2.ABR): From over DWN VORTAC via DWN R-271 and ABR R-088 to ABR VOR/DME.

TAKE-OFF OBSTACLE NOTES:

RWY 4: Multiple trees beginning 800′ from DER, 264′ left of centerline, up to 75′ AGL/921′ MSL.
Rod on building 2528′ from DER, 1175′ left of centerline, 78′ AGL/922′ MSL.
Fence 803′ from DER, 585′ left of centerline, 15′ AGL/860′ MSL.
Antenna on OL building 456′ from DER, 319′ left of centerline, 13′ AGL/850′ MSL.
Light poles 1932′ from DER, 718′ left of centerline, 45′ AGL/885′ MSL.
Stack 4535′ from DER, 481′ left of centerline, 139′ AGL/949′ MSL.

RWY 12R: Multiple trees beginning 1477′ from DER, 407′ left of centerline, up to 86′ AGL/851′ MSL.
Multiple trees beginning 1426′ from DER, 124′ right of centerline, up to 111′ AGL/847′ MSL.
Light pole 1408′ from DER, 746′ right of centerline, 85′ AGL/843′ MSL.
Radar reflector 983′ from DER, 32′ left of centerline, 15′ AGL/829′ MSL.
Pipe on building, 826′ from DER, 576′ left of centerline, 10′ AGL/825′ MSL.
OL on LOC 766′ from DER, on centerline, 7′ AGL/821′ MSL.

RWY 17: Antenna 1272′ from DER, 562′ right of centerline, 57′ AGL/891′ MSL.
Pole 409′ from DER, 530′ right of centerline, 29′ AGL/866′ MSL.
Wind direction indicator on building 2619′ from DER, 881′ left of centerline, 97′ AGL/918′ MSL.
Building 2619′ from DER, 859′ left of centerline, 84′ AGL/905′ MSL
Light 1176′ from DER, 291′ right of centerline, 11′ AGL/875′ MSL.
Tree 2619′ from DER, on centerline, 79′ AGL/900′ MSL.

RWY 22: Tree 2906′ from DER, 833′ right of centerline, 94′ AGL/934′ MSL.
Hopper 1717′ from DER, 456′ left of centerline, 48′ AGL/888′ MSL.

RWY 30L: Multiple trees beginning 1113′ from DER, 701′ left of centerline , up to 80′ AGL/919′ MSL.
Tree 1230′ from DER, 633′ right of centerline, 30′ AGL/877′ MSL.
Ground 28′ from DER, 490′ right of centerline 0′ AGL/844′ MSL.

RWY 30R: Building 1056′ from DER, 198′ left of centerline, 13′ AGL/853′ MSL.
Multiple trees beginning 3010′ from DER, 334′ left of centerline, up to 94′ AGL/940′ MSL.
Light pole 1849′ from DER, 698′ right of centerline, 17′ AGL/871′ MSL.
Fence 1327′ from DER, 667′ right of centerline, 8′ AGL/857′ MSL.
Tree 3703′ from DER, 350′ right of centerline, 67′ AGL/914′ MSL.
Rod on pole 3143′ from DER, 47′ right of centerline, 38′ AGL/898′ MSL.

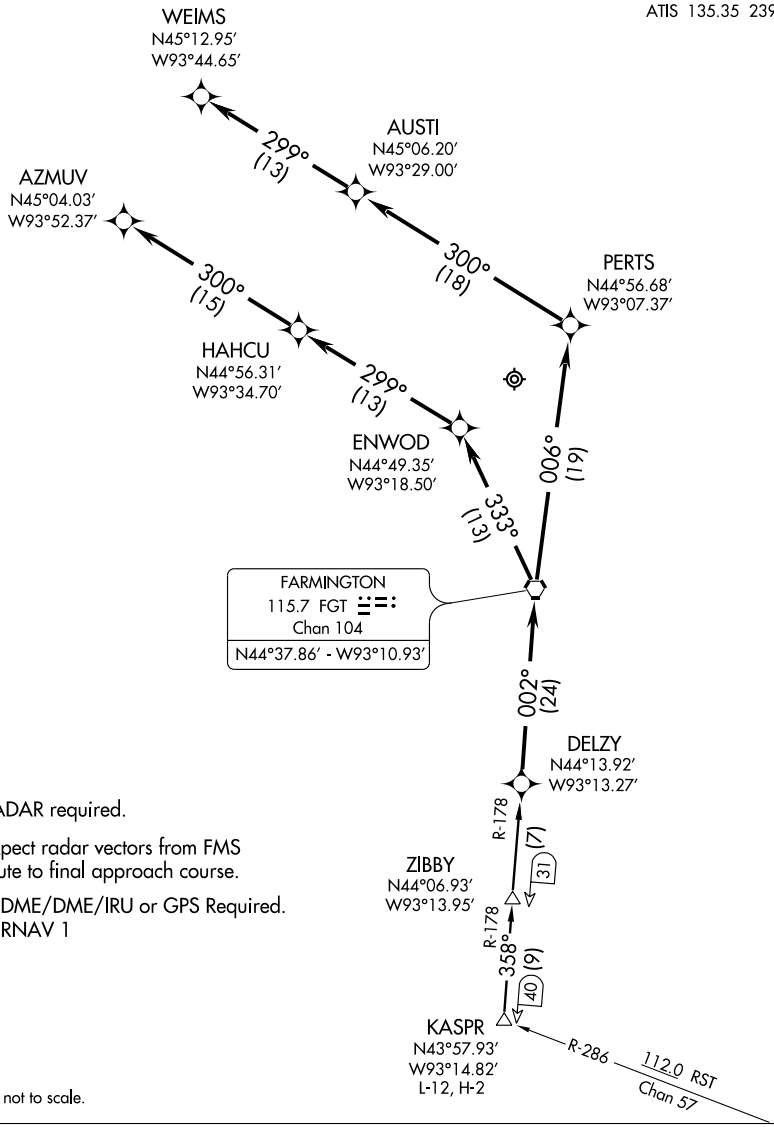
RWY 35: Tree 175′ from DER, 398′ right of centerline, 73′ AGL/883′ MSL.
Multiple trees beginning 1989′ from DER, 351′ left of centerline, up to 65′ AGL/902′ MSL.
Multiple buildings beginning 5.5 NM from DER, 1787′ left of centerline, up to 811′ AGL/1743′ MSL.

NC-1, 08 APR 2010 to 06 MAY 2010

DELZY ONE (FMS) ARRIVAL

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN
ST-264 (FAA) MINNNEAPOLIS, MINNESOTA

MINNEAPOLIS APP CON
119.3 335.5
ATIS 135.35 239.275



NOTE: RADAR required.

NOTE: Expect radar vectors from FMS route to final approach course.

NOTE: 1. DME/DME/IRU or GPS Required.
2. RNAV 1

NOTE: Chart not to scale.

Via the KASPR STAR from over DELZY WP: Thence . . . .

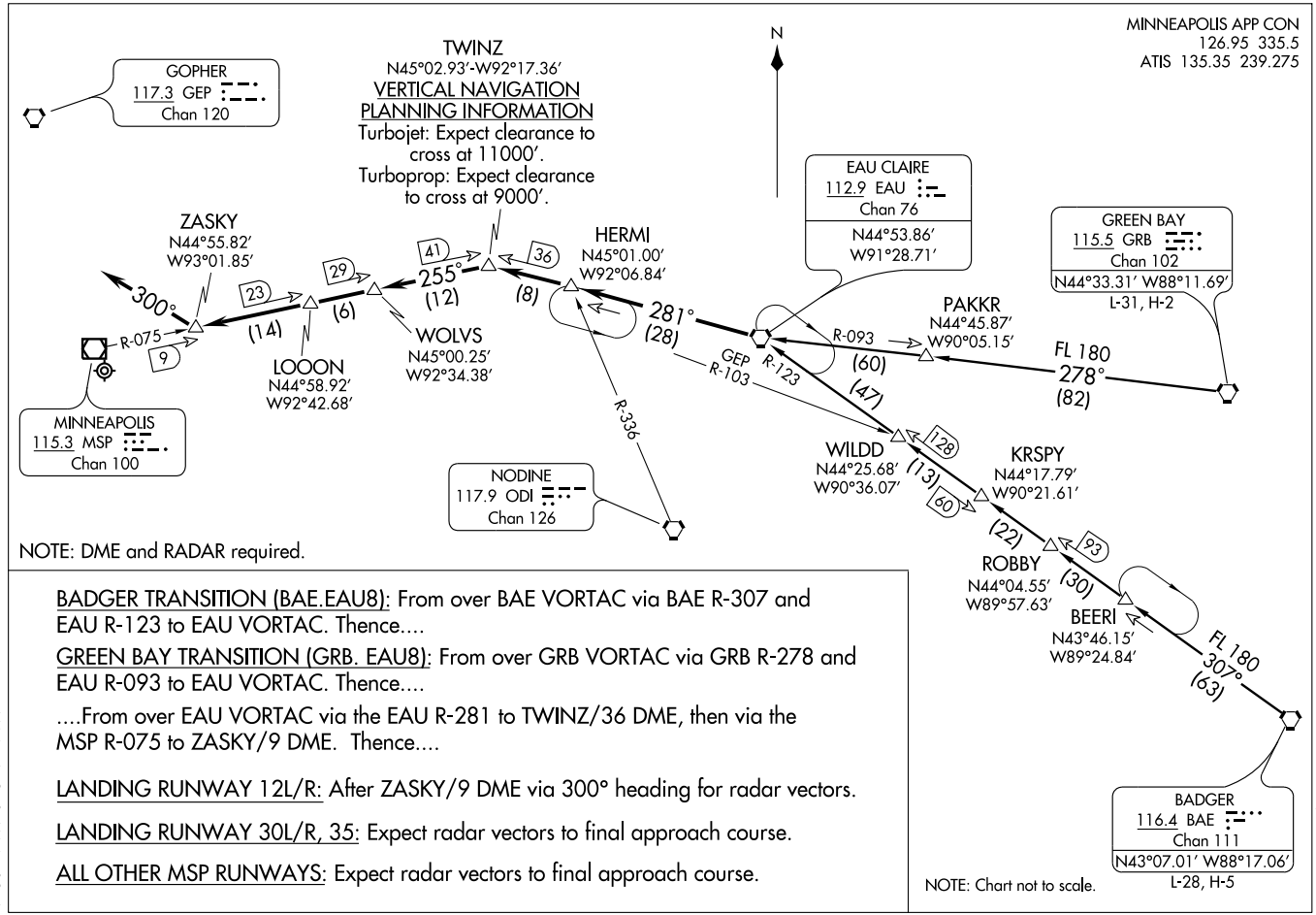
FOR RUNWAY 12L ARRIVALS: To FGT VORTAC to PERTS WP to AUSTI WP to WEIMS WP.

FOR RUNWAY 12R ARRIVALS: To FGT VORTAC to ENWOD WP to HAHCU WP to AZMUV WP.

EAU CLAIRE EIGHT ARRIVAL

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN
MINNEAPOLIS, MINNESOTA

ST-264 (FAA)



NOTE: DME and RADAR required.

BADGER TRANSITION (BAE.EAU8): From over BAE VORTAC via BAE R-307 and EAU R-123 to EAU VORTAC. Thence....

GREEN BAY TRANSITION (GRB. EAU8): From over GRB VORTAC via GRB R-278 and EAU R-093 to EAU VORTAC. Thence....

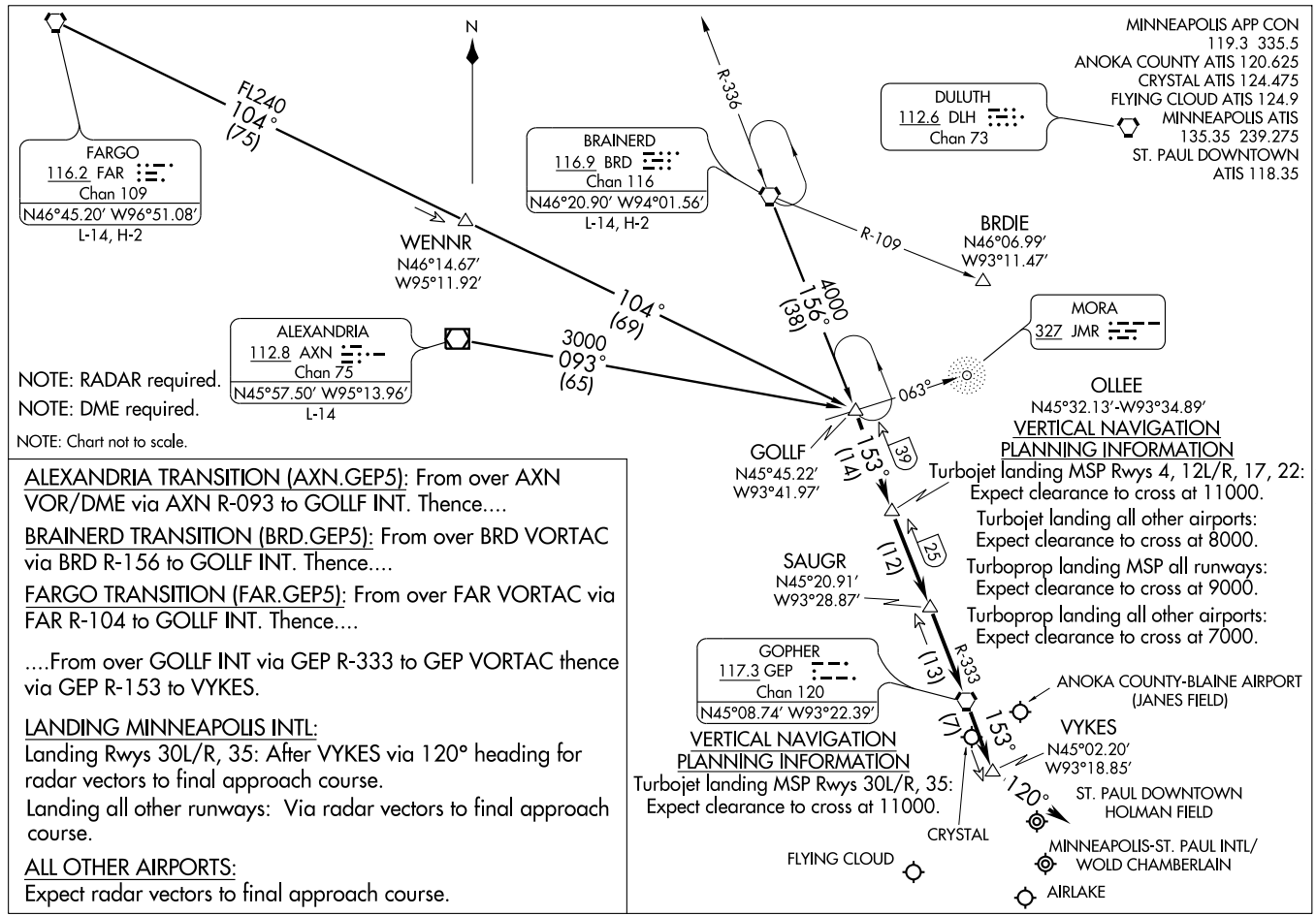
....From over EAU VORTAC via the EAU R-281 to TWINZ/36 DME, then via the MSP R-075 to ZASKY/9 DME. Thence....

LANDING RUNWAY 12L/R: After ZASKY/9 DME via 300° heading for radar vectors.

LANDING RUNWAY 30L/R, 35: Expect radar vectors to final approach course.

ALL OTHER MSP RUNWAYS: Expect radar vectors to final approach course.

GOPHER FIVE ARRIVAL



NOTE: RADAR required.

NOTE: DME required.

NOTE: Chart not to scale.

VERTICAL NAVIGATION PLANNING INFORMATION

Turbojet landing MSP Rwys 4, 12L/R, 17, 22: Expect clearance to cross at 11000.

Turbojet landing all other airports: Expect clearance to cross at 8000.

Turboprop landing MSP all runways: Expect clearance to cross at 9000.

Turboprop landing all other airports: Expect clearance to cross at 7000.

VERTICAL NAVIGATION PLANNING INFORMATION

Turbojet landing MSP Rwys 30L/R, 35: Expect clearance to cross at 11000.

ALEXANDRIA TRANSITION (AXN.GEP5): From over AXN VOR/DME via AXN R-093 to GOLLF INT. Thence....

BRAINERD TRANSITION (BRD.GEP5): From over BRD VORTAC via BRD R-156 to GOLLF INT. Thence....

FARGO TRANSITION (FAR.GEP5): From over FAR VORTAC via FAR R-104 to GOLLF INT. Thence....

....From over GOLLF INT via GEP R-333 to GEP VORTAC thence via GEP R-153 to VYKES.

LANDING MINNEAPOLIS INTL:

Landing Rwys 30L/R, 35: After VYKES via 120° heading for radar vectors to final approach course.

Landing all other runways: Via radar vectors to final approach course.

ALL OTHER AIRPORTS:

Expect radar vectors to final approach course.

ILS or LOC RWY 12L

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

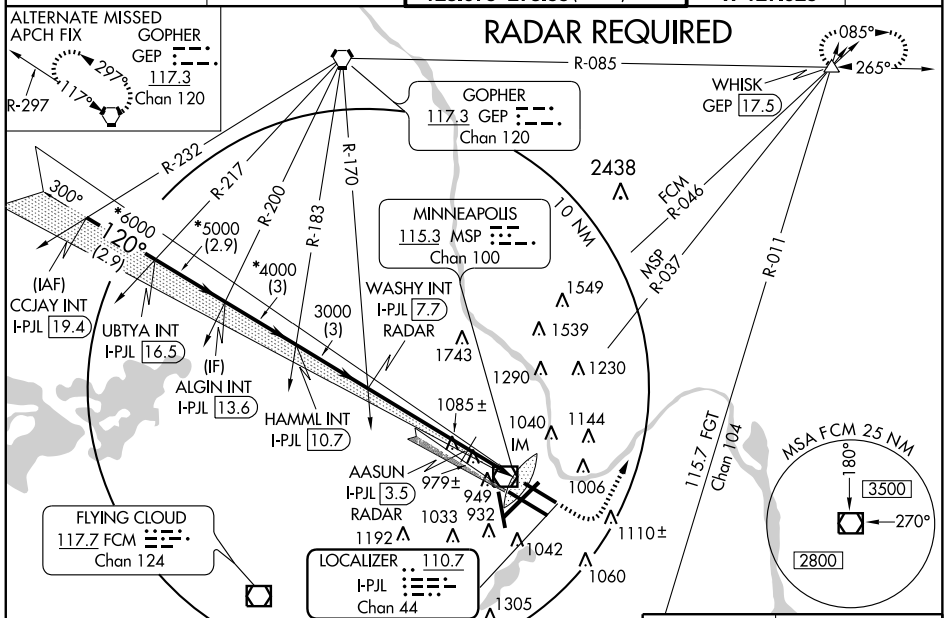
LOC/DME I-PJL	APP CRS	Rwy ldg	7620
110.7	120°	TDZE	839
Chan 44		Apt Elev	841

For inoperative ALSF, increase S-ILS 12L Cat E visibility to RVR 4000 and S-LOC 12L Cat E visibility to 2½ mile. For inoperative ALSF when using AASUN fix minimums, increase S-LOC Cat E visibility to 1½ mile.

ALSF-2

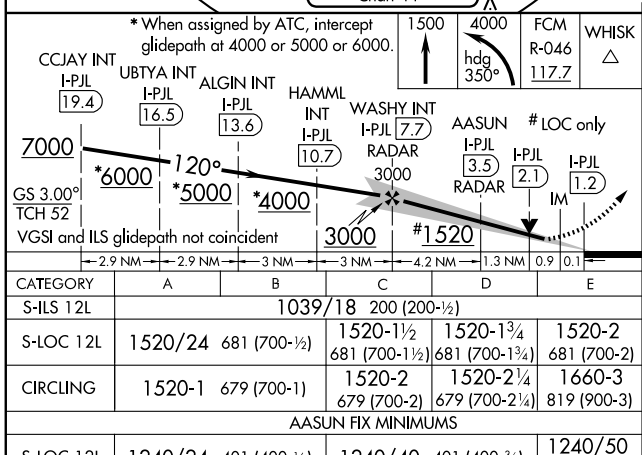
MISSED APPROACH: Climb to 1500, then climbing left turn to 4000 via heading 350° and FCM VOR/DME R-046 to WHISK Int/GEP 17.5 DME and hold.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275	119.3 335.5	123.95 273.55 (12L-30R)	N 121.8 348.6	133.2
DEP 120.8		126.7 273.55 (12R-30L, 4-22)	S 121.9 348.6	
		123.675 273.55 (17-35)	W 127.925	

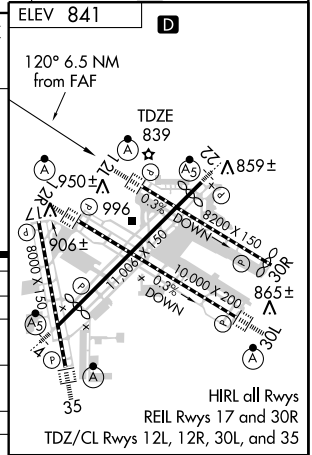


* When assigned by ATC, intercept glidepath at 4000 or 5000 or 6000.

1500	4000	FCM	WHISK
	hdg 350°	R-046 117.7	△



ELEV 841 D



CATEGORY	A	B	C	D	E
S-ILS 12L	1039/18 200 (200-½)				
S-LOC 12L	1520/24 681 (700-½)		1520-1½ 681 (700-1½)	1520-1¾ 681 (700-1¾)	1520-2 681 (700-2)
CIRCLING	1520-1 679 (700-1)		1520-2 679 (700-2)	1520-2¼ 679 (700-2¼)	1660-3 819 (900-3)
AASUN FIX MINIMUMS					
S-LOC 12L	1240/24 401 (400-½)		1240/40 401 (400-¾)		1240/50 401 (400-1)
CIRCLING	1360-1 519 (600-1)		1360-1½ 519 (600-1½)	1460-2 619 (700-2)	1660-3 819 (900-3)

FAF to MAP 6.5 NM

Knots	60	90	120	150	180
Min:Sec	6:30	4:20	3:15	2:36	2:10

NC-1. 08 APR 2010 to 06 MAY 2010

ILS or LOC RWY 12R

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

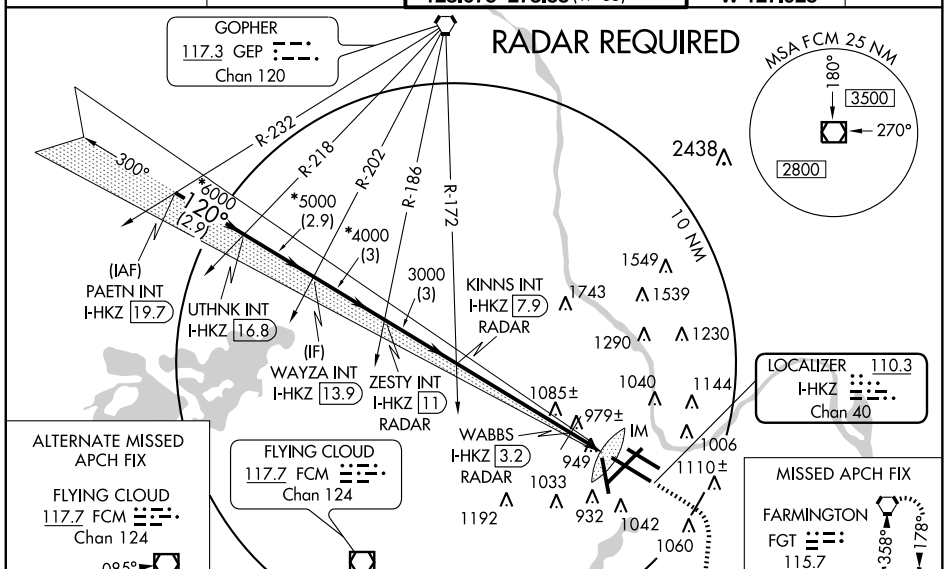
LOC/DME I-HKZ	APP CRS	Rwy ldg	10000
110.3	120°	TDZE	841
Chan 40		Apt Elev	841

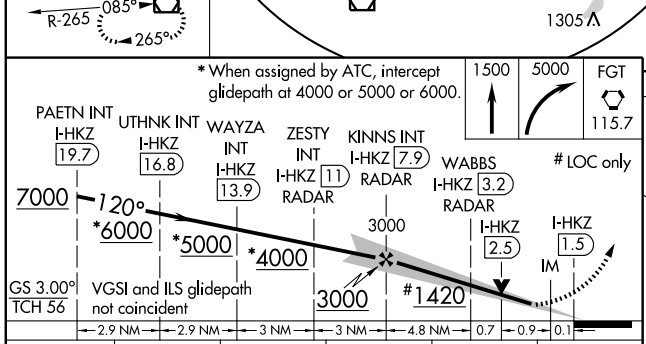
For inoperative ALSF, increase S-ILS 12R Cat E visibility to RVR 4000 and S-LOC 12R Cat E visibility to 2. WABBS fix minimums: For inoperative ALSF, increase S-LOC 12R Cat E visibility to 1½.

ALSF-2

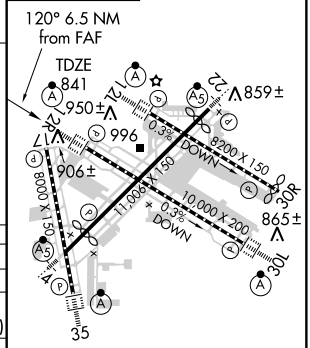
MISSED APPROACH: Climb to 1500 then climbing right turn to 5000 direct FGT VORTAC and hold, continue climb-in-hold to 5000.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275	119.3 335.5	123.95 273.55 (12L-30R)	N 121.8 348.6	133.2
DEP 120.8		126.7 273.55 (12R-30L, 4-22)	S 121.9 348.6	
		123.675 273.55 (17-35)	W 127.925	





ELEV 841 D



HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35

CATEGORY	A	B	C	D	E
S-ILS 12R	1041/18 200 (200-½)				
S-LOC 12R	1420/24 579 (600-½)		1420/50 579 (600-1)	1420/60 579 (600-1¼)	1420-1½ 579 (600-1½)
CIRCLING	1420-1 579 (600-1)		1420-1½ 579 (600-1½)	1460-2 619 (700-2)	1660-3 819 (900-3)
WABBS FIX MINIMUMS					
S-LOC 12R	1240/24 399 (400-½)			1240/40 399 (400-¾)	1240/50 399 (400-1)
CIRCLING	1360-1 519 (600-1)		1360-1½ 519 (600-1½)	1460-2 619 (700-2)	1660-3 819 (900-3)

FAF to MAP 6.5 NM

Knots	60	90	120	150	180
Min:Sec	6:30	4:20	3:15	2:36	2:10

NC-1. 08 APR 2010 to 06 MAY 2010

LOC/DME I-MSP	APP CRS	Rwy ldg	10000
110.3	299°	TDZE	823
Chan 40		Apt Elev	841

ILS or LOC RWY 30L

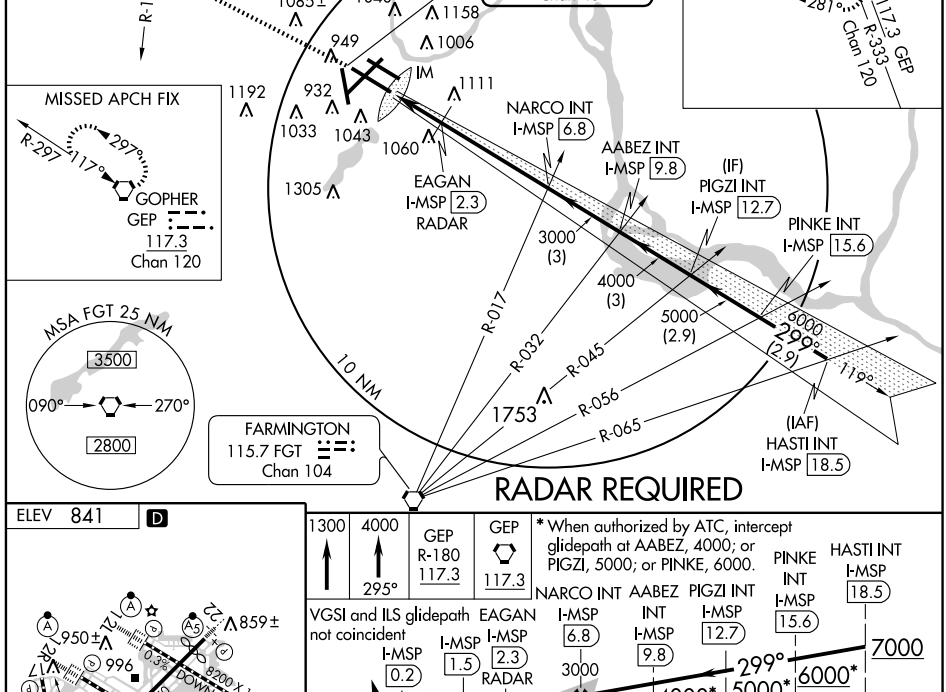
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

For inoperative ALSF, increase S-ILS 30L Cat E visibility to RVR 4000 and S-LOC 30L Cat E visibility to 2.

ALSF-2

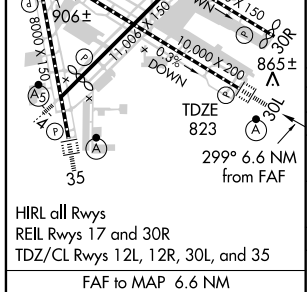
MISSED APPROACH: Climb to 1300, then climb to 4000 via heading 295° and GEP VORTAC R-180 to GEP and hold.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2



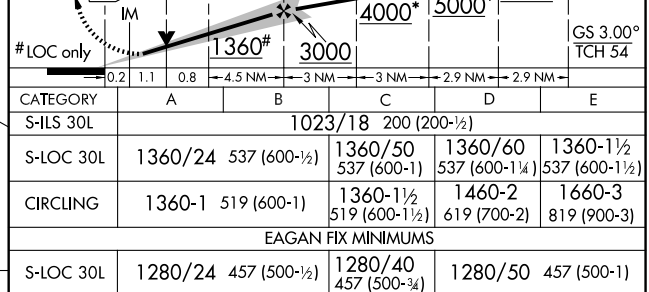
NC-1. 08 APR 2010 to 06 MAY 2010

ELEV 841 D



HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35

FAF to MAP 6.6 NM					
Knots	60	90	120	150	180
Min:Sec	6:36	4:24	3:18	2:38	2:12



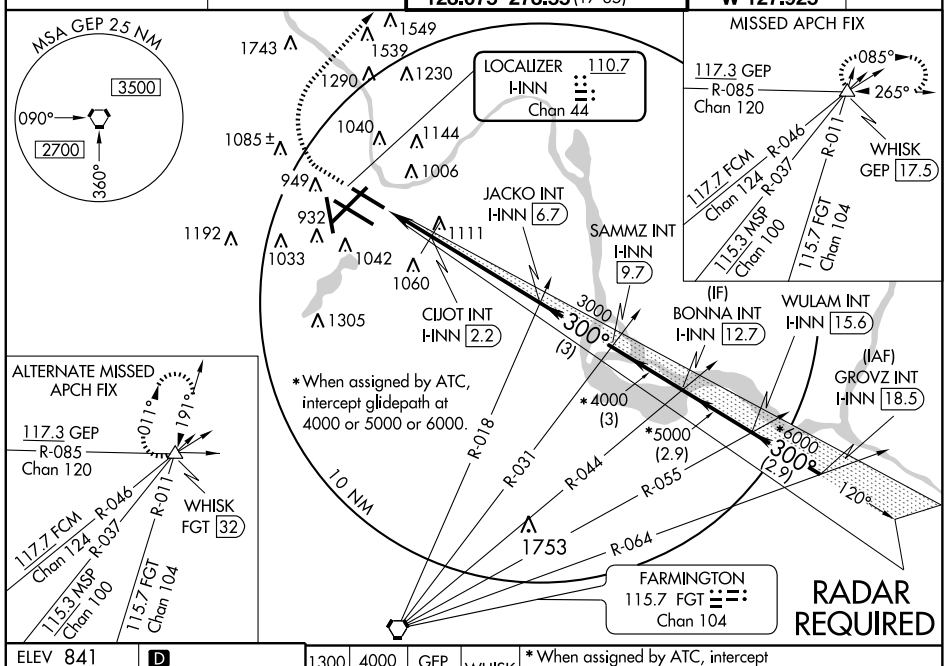
CATEGORY	A	B	C	D	E
S-ILS 30L	1023/18 200 (200-½)				
S-LOC 30L	1360/24 537 (600-½)		1360/50 537 (600-1)	1360/60 537 (600-1¼)	1360-1½ 537 (600-1½)
CIRCLING	1360-1 519 (600-1)		1360-1½ 519 (600-1½)	1460-2 619 (700-2)	1660-3 819 (900-3)
EAGAN FIX MINIMUMS					
S-LOC 30L	1280/24 457 (500-½)		1280/40 457 (500-¾)	1280/50 457 (500-1)	
CIRCLING	1360-1 519 (600-1)		1360-1½ 519 (600-1½)	1460-2 619 (700-2)	1660-3 819 (900-3)

LOC/DME I-INN 110.7 Chan 44	APP CRS 300°	Rwy ldg 8000 TDZE 823 Apt Elev 841

ILS or LOC RWY 30R
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

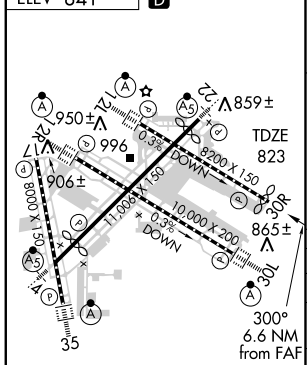
MISSED APPROACH: Climb to 1300 then climbing right turn to 4000 via heading 040° and GEP VORTAC R-085 to WHISK INT/17.5 DME and hold.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2



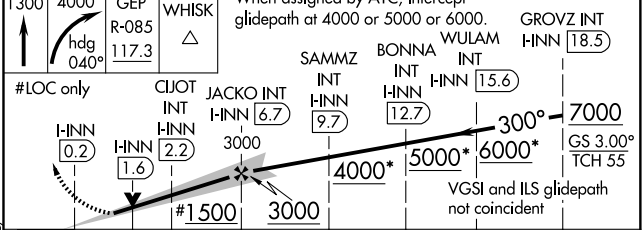
NC-1. 08 APR 2010 to 06 MAY 2010

ELEV 841 D



HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35

FAF to MAP 6.6 NM					
Knots	60	90	120	150	180
Min:Sec	6:36	4:24	3:18	2:38	2:12



CATEGORY	A	B	C	D	E
S-ILS 30R	1073/40 250 (300-¾)				
S-LOC 30R	1500/50 677 (700-1)		1500-2 677 (700-2)	1500-2¼ 677 (700-2¼)	1500-2½ 677 (700-2½)
CIRCLING	1500-1 659 (700-1)		1500-2 659 (700-2)	1500-2¼ 659 (700-2¼)	1660-3 819 (900-3)
DME MINIMUMS					
S-LOC 30R	1340/50 517 (500-1)		1340-1½ 517 (500-1½)	1340-1¾ 517 (500-1¾)	
CIRCLING	1360-1 519 (600-1)		1360-1½ 519 (600-1½)	1460-2 619 (700-2)	1660-3 819 (900-3)

LOC/DME I-BMA	APP CRS	Rwy ldg	8000
110.95	349°	TDZE	834
Chan 46 (Y)		Apt Elev	841

ILS or LOC RWY 35

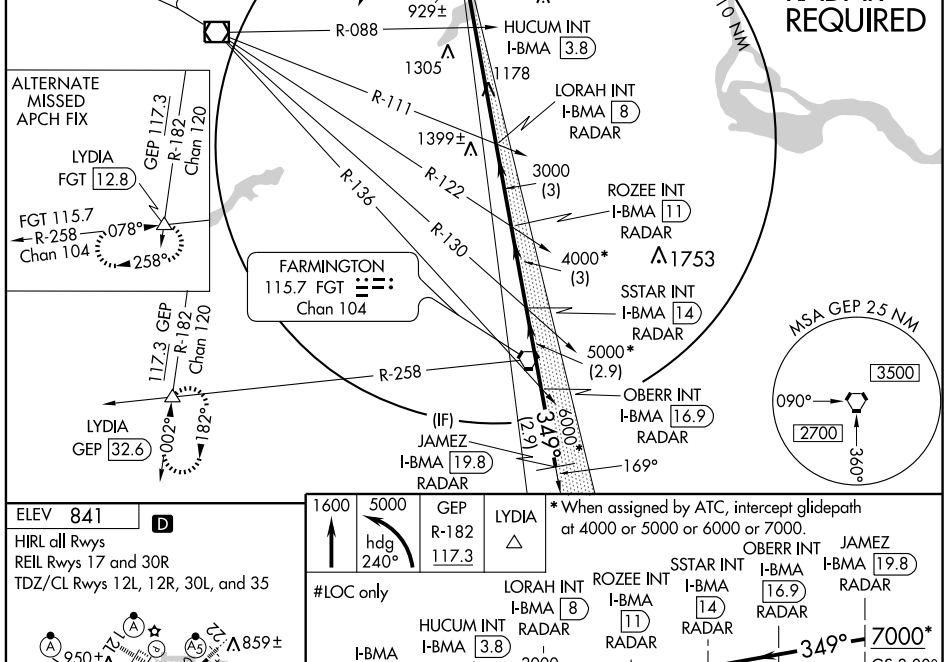
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

For inoperative ALSF, increase S-ILS 35 Cat E visibility to RVR 4000, increase all S-LOC 35 Cat E visibilities to ½ mile.

ALSF-2

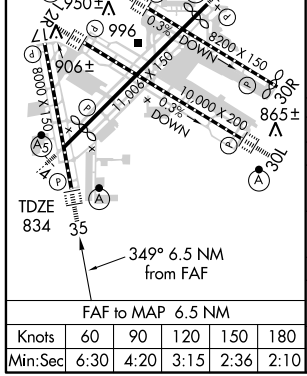
MISSED APPROACH: Climb to 1600 then climbing left turn to 5000 via heading 240° and GEP R-182 to LYDIA INT/ GEP 32.6 DME and hold.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2

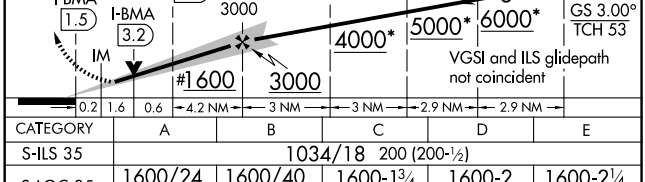


ELEV 841 D

HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35



FAF to MAP 6.5 NM					
Knots	60	90	120	150	180
Min:Sec	6:30	4:20	3:15	2:36	2:10



* When assigned by ATC, intercept glidepath at 4000 or 5000 or 6000 or 7000.

CATEGORY	A	B	C	D	E
S-ILS 35	1034/18 200 (200-½)				
S-LOC 35	1600/24 766 (800-½)	1600/40 766 (800-¾)	1600-1¾ 766 (800-1¾)	1600-2 766 (800-2)	1600-2¼ 766 (800-2¼)
CIRCLING	1600-1 759 (800-1)	1600-1¼ 759 (800-1¼)	1600-2¼ 759 (800-2¼)	1600-2½ 759 (800-2½)	1660-3 819 (900-3)
HUCUM FIX MINIMUMS					
S-LOC 35	1460/24 626 (700-½)		1460/60 626 (700-1¼)	1460-1½ 626 (700-1½)	1460-1¾ 626 (700-1¾)
CIRCLING	1460-1 619 (700-1)		1460-1¾ 619 (700-1¾)	1460-2 619 (700-2)	1660-3 819 (900-3)

NC-1. 08 APR 2010 to 06 MAY 2010

ILS RWY 12L (CAT II)

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

LOC/DME I-PJL	APP CRS	Rwy ldg	7620
110.7	120°	TDZE	839
Chan 44		Apt Elev	841

ALSF-2

MISSED APPROACH: Climb to 1500, then climbing left turn to 4000 via heading 350° and FCM VOR/DME R-046 to WHISK Int/GEP 17.5 DME and hold.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275	119.3 335.5	123.95 273.55 (12L-30R)	N 121.8 348.6	133.2
DEP 120.8		126.7 273.55 (12R-30L, 4-22)	S 121.9 348.6	
		123.675 273.55 (17-35)	W 127.925	

ALTERNATE MISSED APCH FIX GOPHER GEP 117.3 Chan 120

297° 117° R-297

RADAR REQUIRED

R-085 085° 265° WHISK GEP 17.5

GOPHER 117.3 GEP Chan 120

R-232 R-217 R-200 R-183 R-170 FCM R-046 MSP R-037 R-011

300° *6000 120° (2.9) *5000 (2.9) *4000 (3) 3000 (3)

(IAF) CCJAY INT I-PJL 19.4

UBTYA INT I-PJL 16.5

(IF) ALGIN INT I-PJL 13.6

HAMML INT I-PJL 10.7

WASHY INT I-PJL 7.7 RADAR

MINNEAPOLIS 115.3 MSP Chan 100

10 NM

2438 1549 1539 1743 1290 1230 1085± 1040 1144 IM 979± 949 1006 932 1192 1033 1042 1110± 1060 1305

115.7 FGT Chan 104

MSA FCM 25 NM 180° 3500 270° 2800

FLYING CLOUD 117.7 FCM Chan 124

LOCALIZER 110.7 I-PJL Chan 44

ELEV 841 D

* When assigned by ATC, intercept glidepath at 4000 or 5000 or 6000.

1500 | 4000 hdg 350° | FCM R-046 117.7 | WHISK

VGSI and ILS glidepath not coincident

CCJAY INT I-PJL 19.4 | UBTYA INT I-PJL 16.5 | ALGIN INT I-PJL 13.6 | HAMML INT I-PJL 10.7 | WASHY INT I-PJL 7.7 RADAR | DH RA 115

7000 *6000 120° *5000 *4000 3000 IM MSL 839

GS 3.00° TCH 52

2.9 NM | 2.9 NM | 3 NM | 3 NM | 6.4 NM | 887' | 1350'

CATEGORY	A	B	C	D
S-ILS 12L	RA 115/12 100 DA 939			

CATEGORY II ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

TDZE 839

22 859± 12L 950± 996 0.3% DOWN 8200 X 150 30R 865± 906± 8000 X 150 11,006 X 150 10,000 X 200 0.3% DOWN 10L 17 35

HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35

NC-1. 08 APR 2010 to 06 MAY 2010

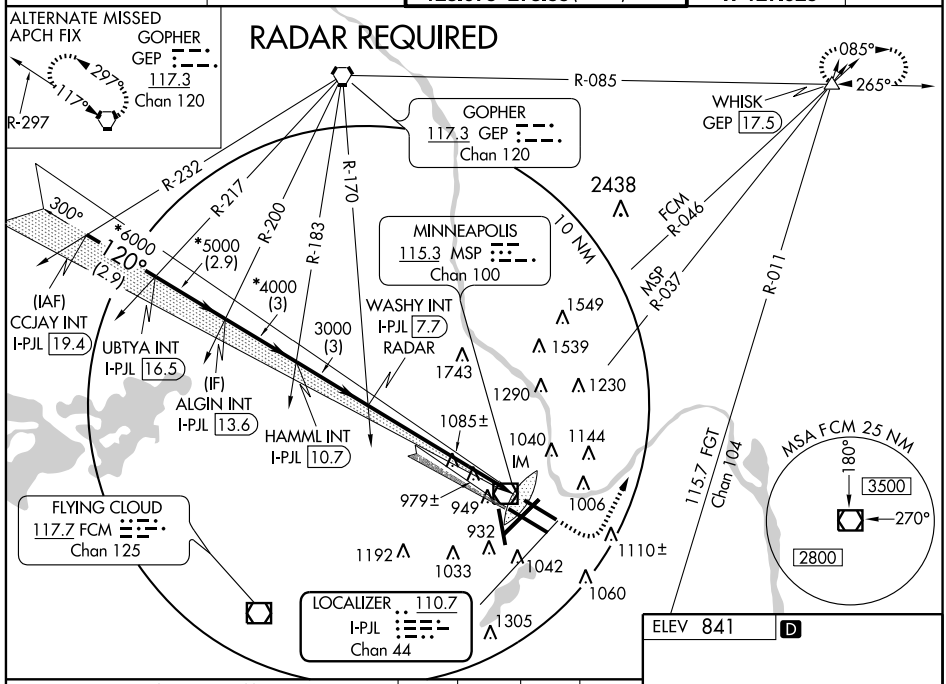
ILS RWY 12L (CAT III)
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

LOC/DME I-PJL	APP CRS	Rwy ldg	7620
110.7	120°	TDZE	839
Chan 44		Apt Elev	841

ALSF-2

MISSED APPROACH: Climb to 1500, then climbing left turn to 4000 via heading 350° and FCM VOR/DME R-046 to WHISK Int/GEP 17.5 DME and hold.

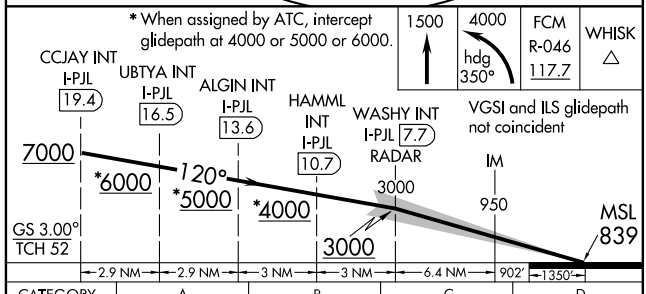
ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275	119.3 335.5	123.95 273.55 (12L-30R)	N 121.8 348.6	133.2
DEP 120.8		126.7 273.55 (12R-30L, 4-22)	S 121.9 348.6	
		123.675 273.55 (17-35)	W 127.925	

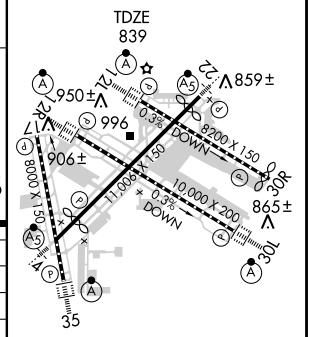


ELEV 841 D

* When assigned by ATC, intercept glidepath at 4000 or 5000 or 6000.

1500	4000 hdg 350°	FCM R-046 117.7	WHISK △





CATEGORY	A	B	C	D
S-ILS 12L		CAT IIIa	RVR 07	
S-ILS 12L		CAT IIIb	RVR 06	
S-ILS 12L		CAT IIIc	NA	

CATEGORY III ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35

NC-1. 08 APR 2010 to 06 MAY 2010

ILS RWY 12R (CAT II)

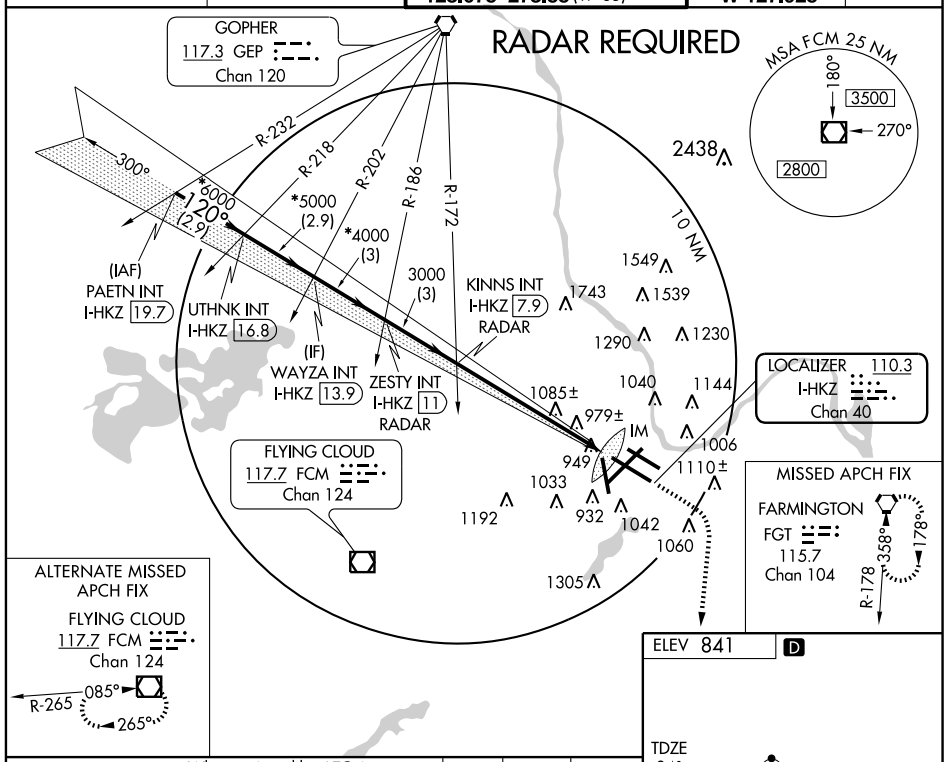
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

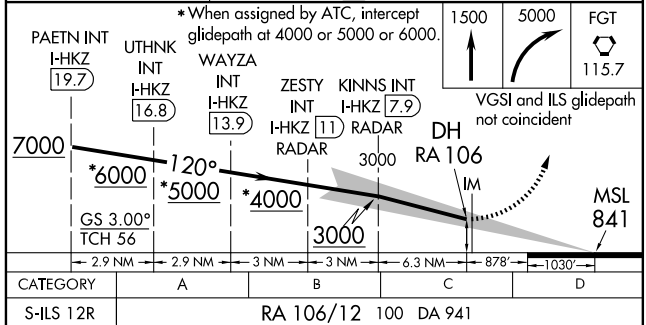
LOC/DME I-HKZ	APP CRS	Rwy ldg	10000
110.3	120°	TDZE	841
Chan 40		Apt Elev	841

ALSF-2

MISSED APPROACH: Climb to 1500 then climbing right turn to 5000 direct FGT VORTAC and hold, continue climb-in-hold to 5000.

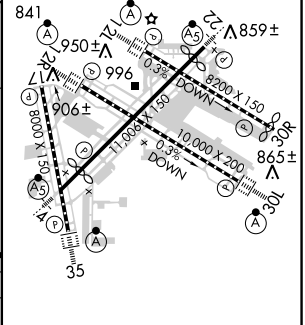
ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2





CATEGORY	A	B	C	D
S-ILS 12R	RA 106/12 100 DA 941			

ELEV 841 D



HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35

CATEGORY II ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

NC-1. 08 APR 2010 to 06 MAY 2010

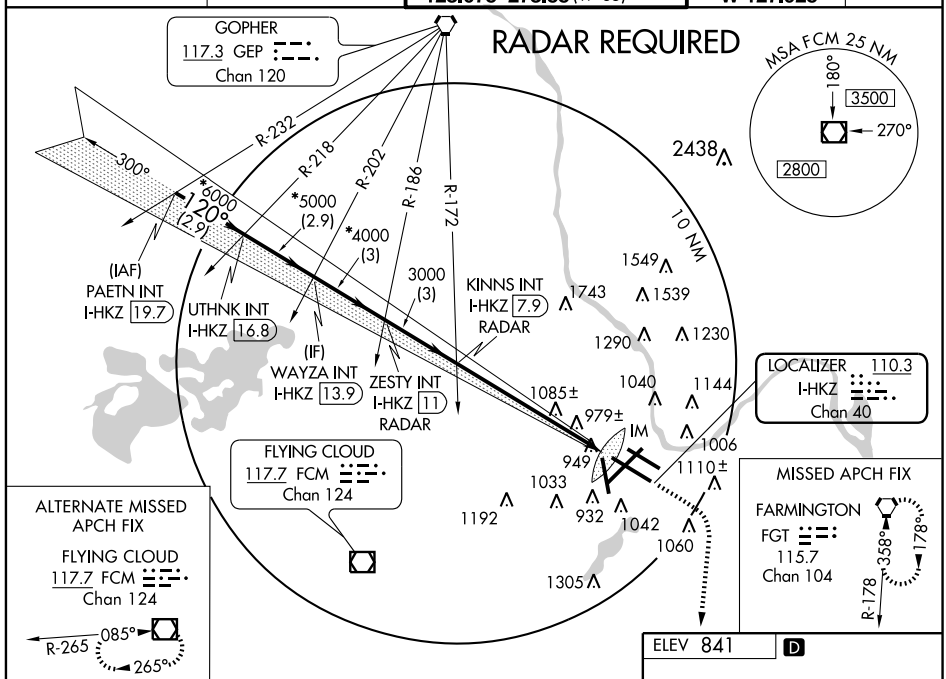
ILS RWY 12R (CAT III)
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

LOC/DME I-HKZ	APP CRS	Rwy ldg	10000
110.3	120°	TDZE	841
Chan 40		Apt Elev	841

ALSF-2

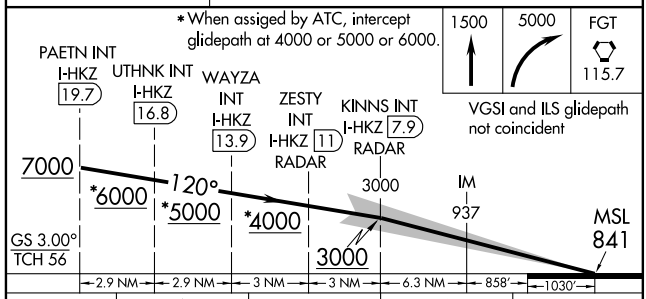
MISSED APPROACH: Climb to 1500 then climbing right turn to 5000 direct FGT VORTAC and hold, continue climb-in-hold to 5000.

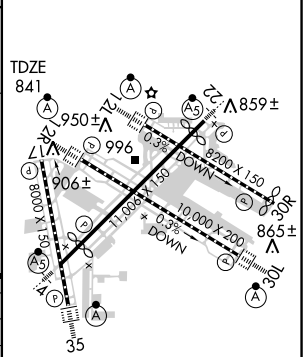
ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2



ELEV 841 D

*When assiged by ATC, intercept glidepath at 4000 or 5000 or 6000.





CATEGORY	A	B	C	D
S-ILS 12R		CAT IIIa	RVR 07	
S-ILS 12R		CAT IIIb	NA	
S-ILS 12R		CAT IIIc	NA	

CATEGORY III ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35

NC-1. 08 APR 2010 to 06 MAY 2010

LOC/DME I-MSP	APP CRS	Rwy ldg 10000
110.3	299°	TDZE 823
Chan 40		Apt Elev 841

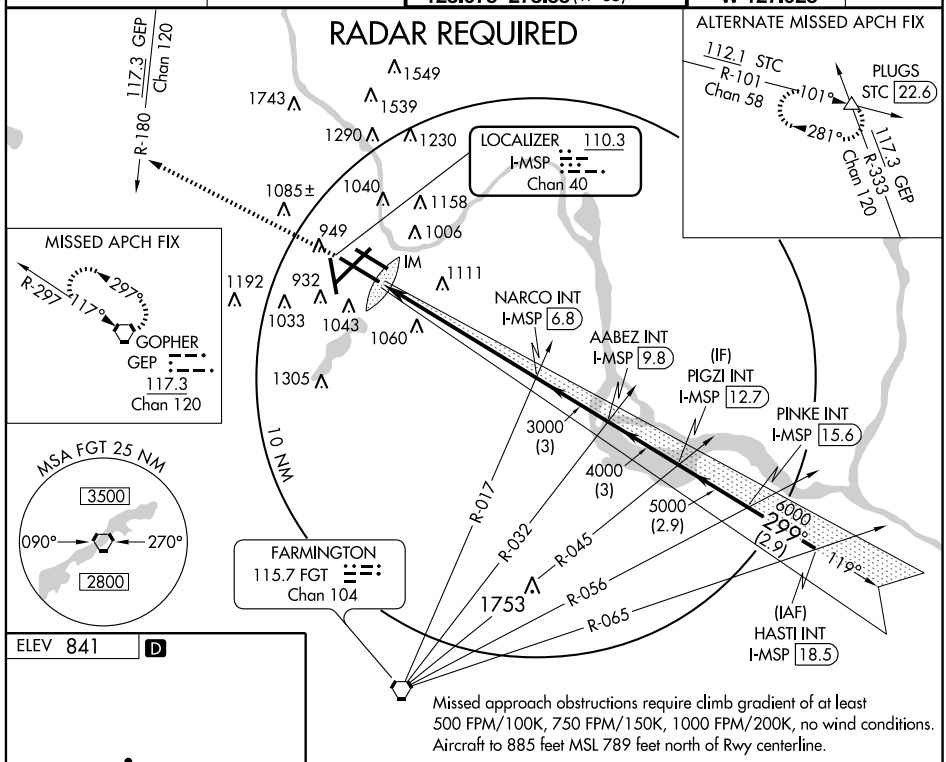
ILS RWY 30L (CAT II)

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

ALSF-2

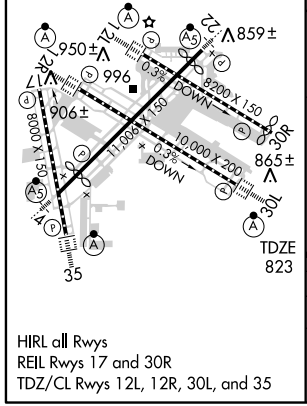
MISSED APPROACH: Climb to 1300, then climb to 4000 via heading 295° and GEP VORTAC R-180 to GEP and hold.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2



Missed approach obstructions require climb gradient of at least 500 FPM/100K, 750 FPM/150K, 1000 FPM/200K, no wind conditions. Aircraft to 885 feet MSL 789 feet north of Rwy centerline.

ELEV 841 D

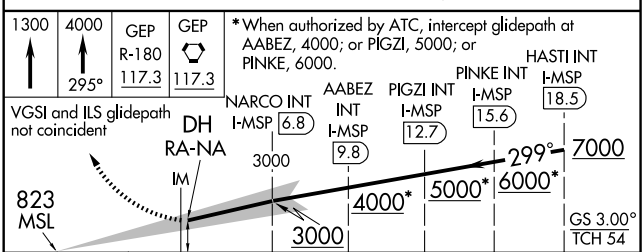


HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35

1300	4000	GEP	GEP
	295°	R-180	
		117.3	117.3

*When authorized by ATC, intercept glidepath at AABEZ, 4000; or PIGZI, 5000; or PINKE, 6000.

VGSI and ILS glidepath not coincident



CATEGORY	A	B	C	D
S-ILS 30L	RA-NA/12 110 DA 933			

CATEGORY II ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

NC-1. 08 APR 2010 to 06 MAY 2010

ILS RWY 35 (CAT II)

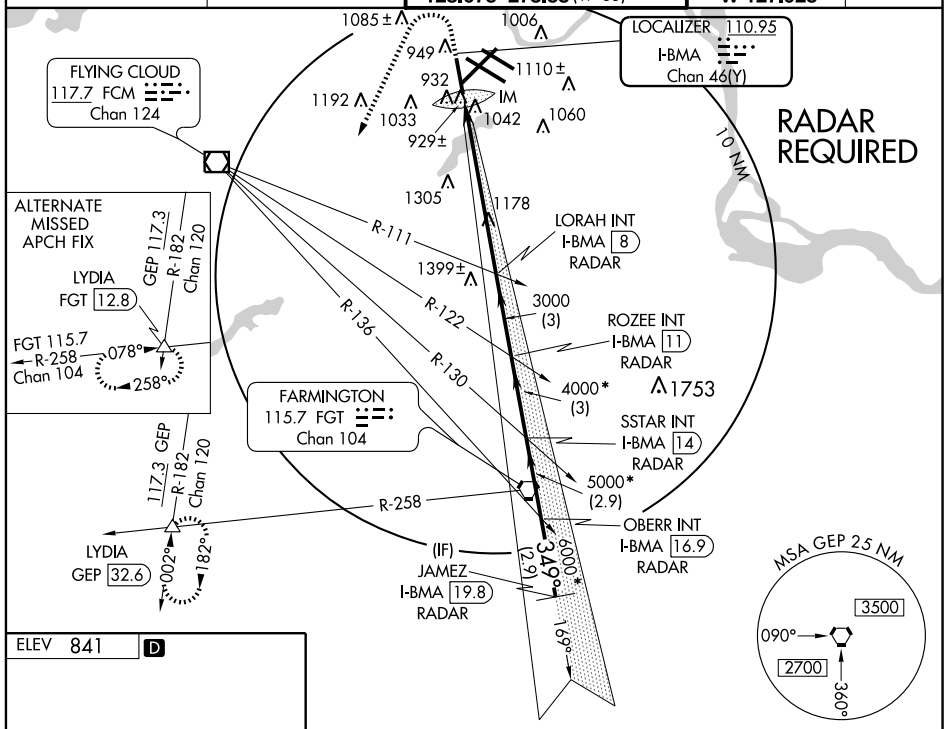
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

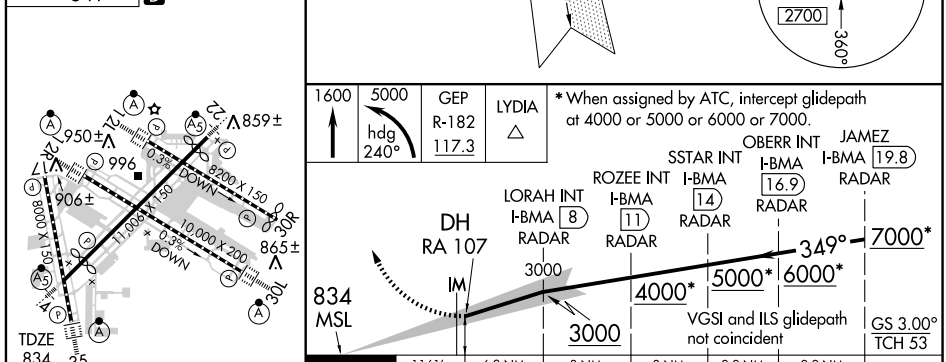
LOC/DME I-BMA	APP CRS	Rwy ldg	8000
110.95	349°	TDZE	834
Chan 46 (Y)		Apt Elev	841

ALSF-2

MISSED APPROACH: Climb to 1600 then climbing left turn to 5000 via heading 240° and GEP R-182 to LYDIA INT/ GEP 32.6 DME and hold.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2





HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35

CATEGORY II ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

NC-1. 08 APR 2010 to 06 MAY 2010

ILS RWY 35 (CAT III)

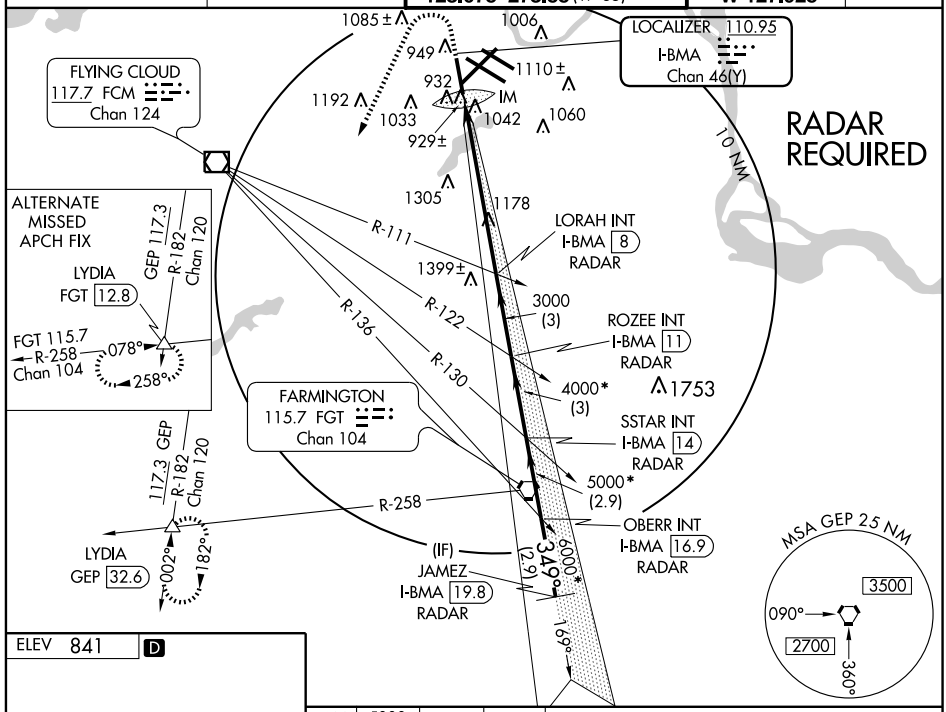
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

LOC/DME I-BMA	APP CRS	Rwy ldg	8000
110.95	349°	TDZE	834
Chan 46 (Y)		Apt Elev	841

ALSF-2

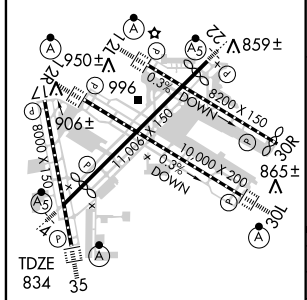
MISSED APPROACH: Climb to 1600 then climbing left turn to 5000 via heading 240° and GEP R-182 to LYDIA INT/ GEP 32.6 DME and hold.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2



NC-1, 08 APR 2010 to 06 MAY 2010

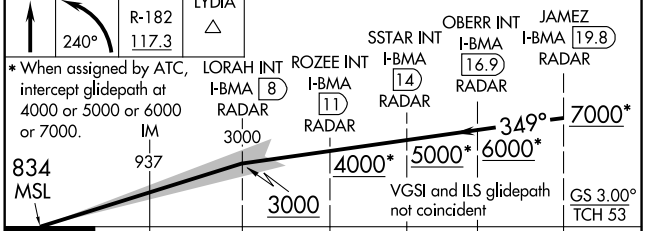
ELEV 841 D



HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35

1600	5000	GEP R-182 117.3	LYDIA
	240°		

* When assigned by ATC, intercept glidepath at 4000 or 5000 or 6000 or 7000.

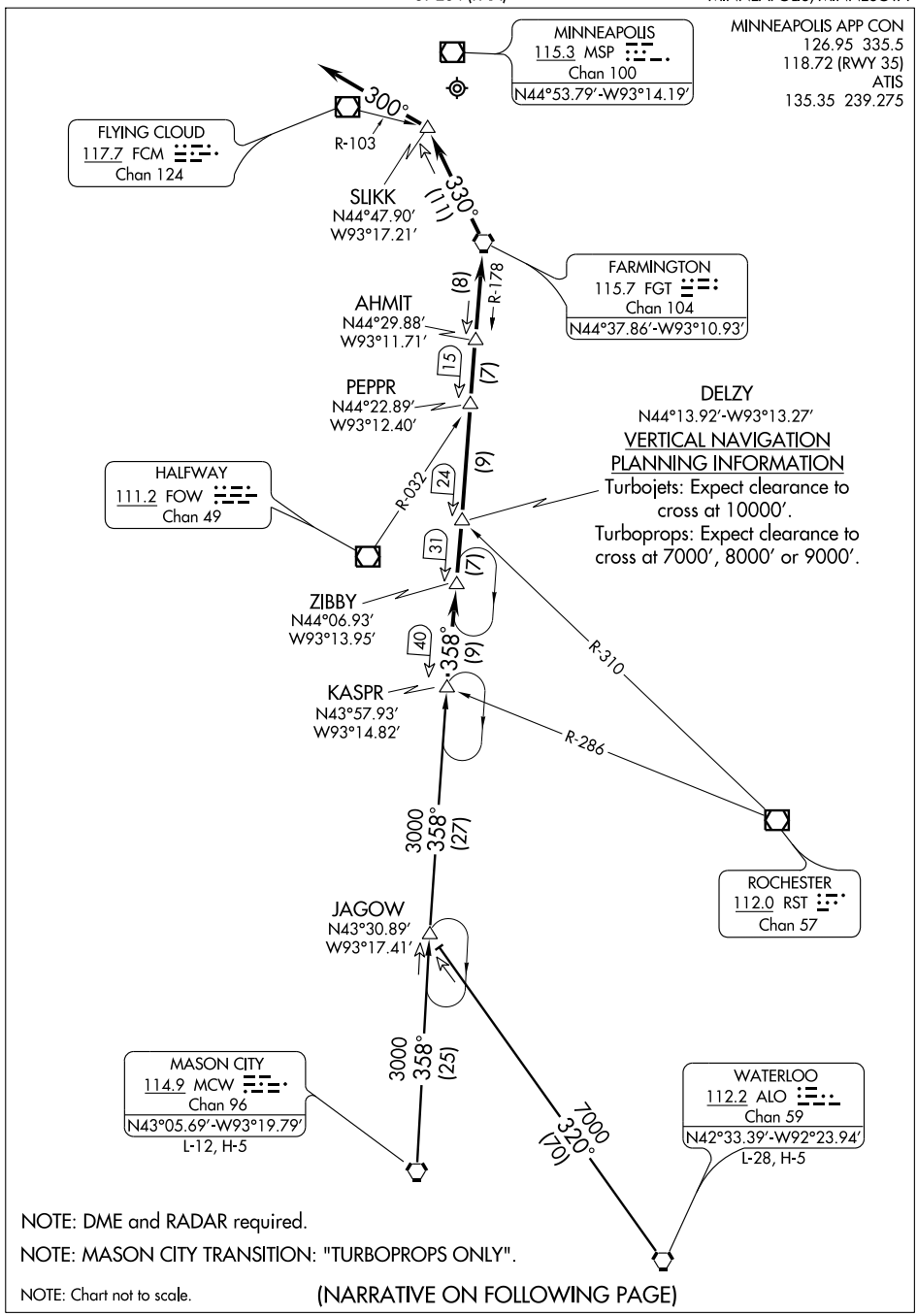


CATEGORY	A	B	C	D
S-ILS 35		CAT IIIa	RVR 07	
S-ILS 35		CAT IIIb	RVR 06	
S-ILS 35		CAT IIIc	NA	

CATEGORY III ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

KASPR FOUR ARRIVAL

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN
ST-264 (FAA) MINNEAPOLIS, MINNESOTA



NOTE: DME and RADAR required.

NOTE: MASON CITY TRANSITION: "TURBOPROPS ONLY".

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

ARRIVAL ROUTE DESCRIPTION

MASON CITY TRANSITION (MCW.KASPR4) (TURBOPROPS ONLY): From over MCW VORTAC via MCW R-358 and FGT R-178 to KASPR INT. Thence....
WATERLOO TRANSITION (ALO.KASPR4): From over ALO VORTAC via ALO R-320 to JACOW INT, then via MCW R-358 and FGT R-178 to KASPR INT. Thence....

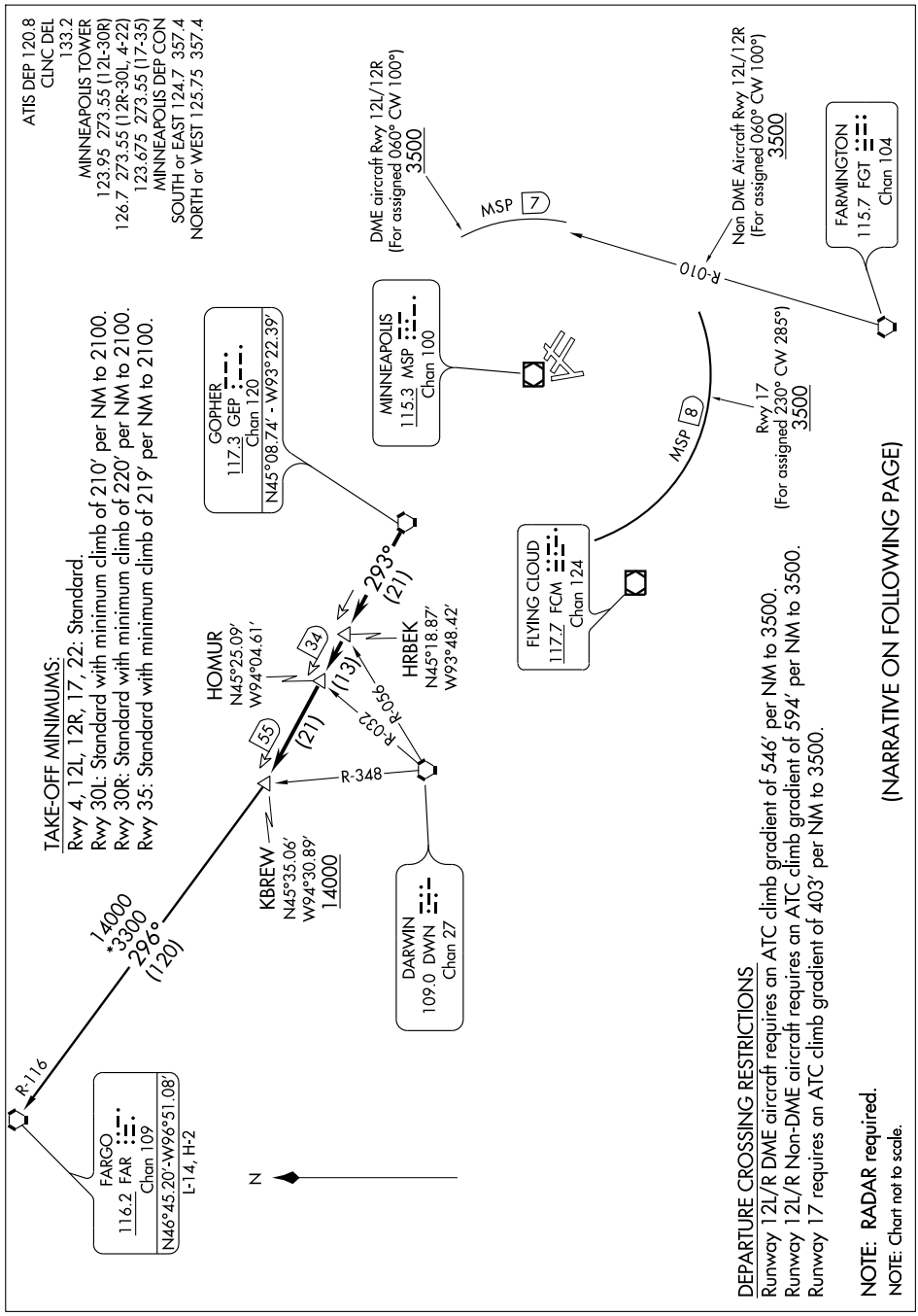
....From over KASPR INT via FGT R-178 to FGT VORTAC.

LANDING RUNWAYS 12L/12R:
After FGT VORTAC via FGT R-330 to SLIKK INT thence via 300° heading for radar vectors to final approach course.

LANDING ALL OTHER RUNWAYS:
Via radar vectors to final approach course.

KBREW THREE DEPARTURE

MINNEAPOLIS-ST. PAUL INTL/WOLD-CHAMBERLAIN (MSP)
SL-264 (FAA)
MINNEAPOLIS, MINNESOTA



DEPARTURE ROUTE DESCRIPTION

TAKE-OFF ALL RUNWAYS: Fly assigned heading for radar vectors to GEP VORTAC then via GEP R-293 to KBREW INT/GEP 55 DME. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude.

DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES: For assigned headings from 060° clockwise to 100°, cross MSP 7 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

NON DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES: For assigned headings from 060° clockwise to 100°, cross FGT R-010 at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

TAKE-OFF RUNWAYS 4, 22, 30L/R, 35: Initially assigned heading, thence . . . .

TAKE-OFF RUNWAY 17: For assigned heading 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

FARGO TRANSITION (KBREW3.FAR): From over KBREW INT via FAR R-116 to FAR VORTAC.

TAKE-OFF OBSTACLE NOTES:

RWY 4: Multiple trees beginning 800′ from DER, 264′ left of centerline, up to 75′ AGL/921′ MSL.
Rod on building 2528′ from DER, 1175′ left of centerline, 78′ AGL/922′ MSL.
Fence 803′ from DER, 585′ left of centerline, 15′ AGL/860′ MSL.
Antenna on OL building 456′ from DER, 319′ left of centerline, 13′ AGL/850′ MSL.
Light poles 1932′ from DER, 718′ left of centerline, 45′ AGL/885′ MSL.
Stack 4535′ from DER, 481′ left of centerline, 139′ AGL/949′ MSL.

RWY 12R: Multiple trees beginning 1477′ from DER, 407′ left of centerline, up to 86′ AGL/851MSL.
Multiple trees beginning 1426′ from DER, 124′ right of centerline, up to 111′AGL/847′ MSL.
Light pole 1408′ from DER, 746′ right of centerline, 85′ AGL/843′ MSL.
Radar reflector 983′ from DER, 32′ left of centerline, 15′ AGL/829′ MSL.
Pipe on building 826′ from DER, 576′ left of centerline, 10′ AGL/825′ MSL.
OL on LOC 766′ from DER, on centerline, 7′ AGL/821′ MSL.

RWY 22: Tree 2906′ from DER, 833′ right of centerline, 94′ AGL/934′ MSL.
Hopper 1717′ from DER, 456′ left of centerline, 48′ AGL/888′ MSL.

RWY 30L: Multiple trees beginning 1113′ from DER, 701′ left of centerline , up to 80′ AGL/919′ MSL.
Tree 1230′ from DER, 633′ right of centerline, 30′ AGL/877′ MSL.
Ground 28′ from DER, 490′ right of centerline, 0′ AGL/844′ MSL.

RWY 17: Antenna 1272′ from DER, 562′ right of centerline, 57′ AGL/891′ MSL.
Pole 409′ from DER, 530′ right of centerline, 29′ AGL/866′ MSL.
Wind direction indicator on building 2619′ from DER, 881′ left of centerline, 97′ AGL/918′ MSL.
Building 2619′ from DER, 859′ left of centerline, 84′ AGL/905′ MSL.
Light 1176′ from DER, 291′ right of centerline, 11′ AGL/875′ MSL.
Tree 2619′ from DER, on centerline , 79′ AGL/900′ MSL.

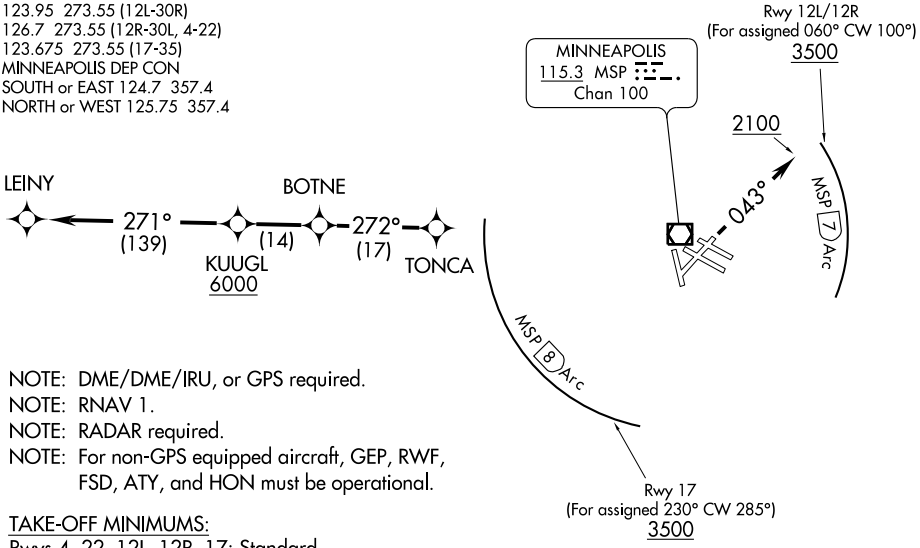
RWY 30R: Building 1056′ from DER, 198′ left of centerline, 13′ AGL/853′ MSL.
Multiple trees beginning 3010′ from DER, 334′ left of centerline, up to 94′ AGL/940′ MSL.
Light pole 1849′ from DER, 698′ right of centerline, 17′ AGL/871′ MSL.
Fence 1327′ from DER, 667′ right of centerline, 8′ AGL/ 857′ MSL.
Tree 3703′ from DER, 350′ right of centerline, 67′ AGL/ 914′ MSL.
Rod on pole 3143′ from DER, 47′ right of centerline, 38′ AGL/898′ MSL.

RWY 35: Tree 175′ from DER, 398′ right of centerline, 73′ AGL/883′ MSL.
Multiple trees beginning 1989′ from DER, 351′ left of centerline, up to 65′ AGL/902′ MSL.
Multiple buildings beginning 5.5 NM from DER, 1787′ left of centerline, up to 811′ AGL/1743′ MSL.

NC-1, 08 APR 2010 to 06 MAY 2010

LEINY THREE DEPARTURE (RNAV)

ATIS DEP 120.8
CLNC DEL
133.2
MINNEAPOLIS TOWER
123.95 273.55 (12L-30R)
126.7 273.55 (12R-30L, 4-22)
123.675 273.55 (17-35)
MINNEAPOLIS DEP CON
SOUTH or EAST 124.7 357.4
NORTH or WEST 125.75 357.4



NOTE: DME/DME/IRU, or GPS required.
NOTE: RNAV 1.
NOTE: RADAR required.
NOTE: For non-GPS equipped aircraft, GEP, RWF, FSD, ATY, and HON must be operational.

TAKE-OFF MINIMUMS:
Rwys 4, 22, 12L, 12R, 17: Standard.
Rwy 35: Standard with minimum climb of 219′ per NM to 2100.
Rwy 30L: Standard with minimum climb of 210′ per NM to 2100.
Rwy 30R: Standard with minimum climb of 220′ per NM to 2100.

DEPARTURE CROSSING RESTRICTIONS:
Runway 12L/R requires an ATC climb gradient of 546′ per NM to 3500.
Runway 17 requires an ATC climb gradient of 403′ per NM to 3500.

NOTE: Chart not to scale.

(NOTES CONTINUED ON FOLLOWING PAGE)

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAY 4: Climb heading 043° to 2100. Thence . . . .

TAKE-OFF RUNWAYS 12L/12R: For assigned headings from 060° clockwise to 100°, cross MSP VOR/DME 7 DME Arc at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

TAKE-OFF RUNWAY 17: For assigned headings from 230° clockwise to 285°, cross MSP VOR/DME 8 DME Arc at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

TAKE-OFF RUNWAYS 22, 35, 30L/R: Climb on assigned heading for radar vectors. Thence . . . .

. . . . expect radar vectors to TONCA, then via 272° track to BOTNE, then via 272° track to KUUGL, then via 271° to LEINY. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude until BOTNE. Expect filed altitude/flight level 10 minutes after departure. Cross KUUGL at or above 6000.

NC-1, 08 APR 2010 to 06 MAY 2010

TAKE-OFF OBSTACLE NOTES:

RWY 4: Multiple trees beginning 800′ from DER, 264′ left of centerline, up to 75′ AGL/921′ MSL.
Rod on building 2528′ from DER, 1175′ left of centerline, 78′ AGL/922′ MSL.
Fence 803′ from DER, 585′ left of centerline, 15′ AGL/860′ MSL.
Ant on OL building 456′ from DER, 319′ left of centerline, 13′ AGL/850′ MSL.
LT poles 1932′ from DER, 718′ left of centerline, 45′ AGL/885′ MSL.
Stack 4535′ from DER, 481′ left of centerline, 139′ AGL/949′ MSL.

RWY 22: Tree 2906′ from DER, 833′ right of centerline, 94′ AGL/934′ MSL.
Hopper 1717′ from DER, 456′ left of centerline, 48′ AGL/888′ MSL.

RWY30L: Multiple trees beginning 1113′ from DER, 701′ left of centerline, up to 80′ AGL/919′ MSL.
Tree 1230′ from DER, 633′ right of centerline, 30′ AGL/877′ MSL.
Ground 28′ from DER, 490′ right of centerline, 0′ AGL/844′ MSL.

RWY 17: Antenna 1272′ from DER, 562′ right of centerline, 57′ AGL/891′ MSL.
Pole 409′ from DER, 530′ right of centerline, 29′ AGL/866′ MSL.
Wind direction indicator on bldg 2619′ from DER, 881′ left of centerline, 97′ AGL/918′ MSL.
Bldg 2619′ from DER, 859′ left of centerline, 84′ AGL/905′ MSL.
LT 1176′ from DER, 291′ right of centerline, 11′ AGL/875′ MSL.
Tree 2619′ from DER, on centerline, 79′ AGL/900′ MSL.

RWY 30R: Bldg 1056′ from DER, 198′ left of centerline, 13′ AGL/853′ MSL.
Multiple trees beginning 3010′ from DER, 334′ left of centerline, up to 94′ AGL/940′ MSL.
LT pole 1849′ from DER, 698′ right of centerline, 17′ AGL/871′ MSL.
Fence 1327′ from DER, 667′ right of centerline, 8′ AGL/857′ MSL.
Tree 3703′ from DER, 350′ right of centerline, 67′ AGL/914′ MSL.
Rod on pole 3143′ from DER, 47′ right of centerline, 38′ AGL/898′ MSL.

RWY 35: Tree 175′ from DER, 398′ right of centerline, 73′ AGL/883′ MSL.
Multiple trees beginning 1989′ from DER, 351′ left of centerline, up to 65′ AGL/902′ MSL.
Multiple buildings beginning 5.5 NM from DER, 1787′ left of centerline, up to 811′ AGL/1743′ MSL.

RWY12R: Multiple trees beginning 1477′ from DER, 407′ left of centerline, up to 86′ AGL/851′ MSL.
Multiple trees beginning 1426′ from DER, 124′ right of centerline, up to 111′ AGL/847′ MSL.
LT pole 1408′ from DER, 746′ right of centerline, 85′ AGL/843′ MSL.
Radar reflector 983′ from DER, 32′ left of centerline, 15′ AGL/829′ MSL.
Pipe on bldg, 826′ from DER, 576′ left of centerline, 10′ AGL/825′ MSL.
OL on LOC 766′ from DER, on centerline, 7′ AGL/821′ MSL.

LOC I-APL	APP CRS	Rwy ldg	9456
109.3	044°	TDZE	832
		Apt Elev	841

LOC RWY 4

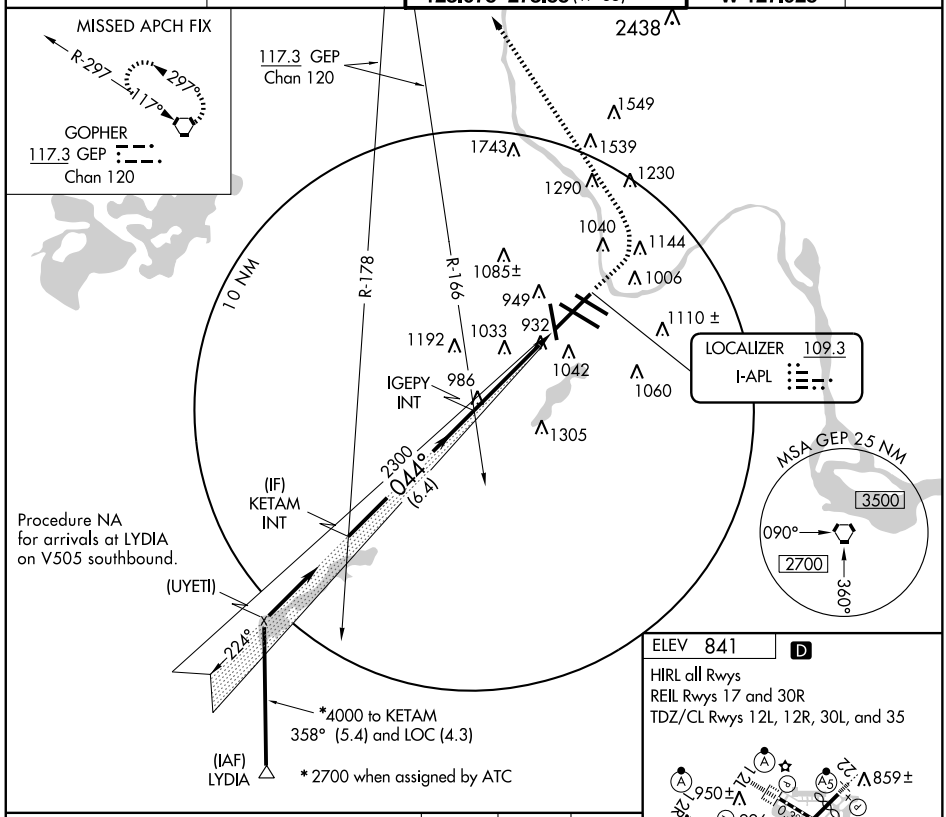
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

For inoperative MALSR, increase S-4 Cat E visibility to 1¾ mile.

MALSR

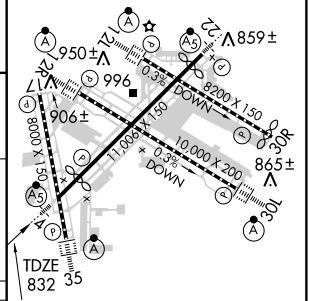
MISSED APPROACH: Climb to 1500 then climbing left turn to 4000 direct GEP VORTAC and hold.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2

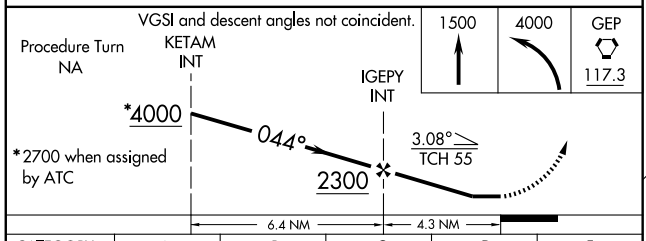


ELEV 841 D

HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35



044° 4.3 NM from FAF



CATEGORY	A	B	C	D	E
S-4	1340/24	508 (500-½)	1340/50	508 (500-1)	1340/60 508 (500-1¼)
CIRCLING	1360-1	519 (600-1)	1360-1½ 519 (600-1½)	1460-2 619 (700-2)	1660-3 819 (900-3)

FAF to MAP 4.3 NM

Knots	60	90	120	150	180
Min:Sec	4:18	2:52	2:09	1:43	1:26

NC-1. 08 APR 2010 to 06 MAY 2010

LOC/DME I-TJZ	APP CRS	Rwy ldg	8000
110.95	169°	TDZE	840
Chan 46 (Y)		Apt Elev	841

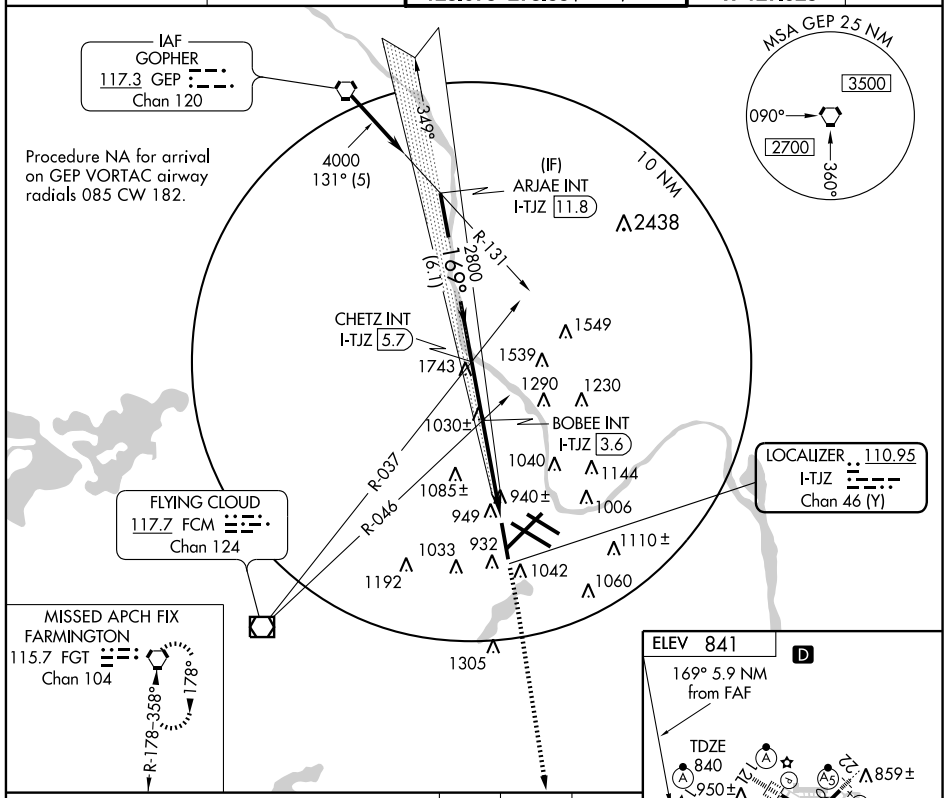
LOC RWY 17

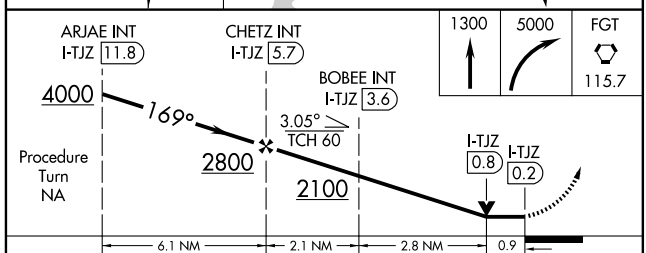
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

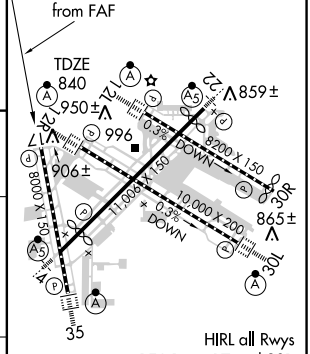
Visibility reduction by helicopters NA.

MISSED APPROACH: Climb to 1300 then climbing right turn to 5000 direct FGT VORTAC and hold, continue climb-in-hold to 5000.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2







CATEGORY	A	B	C	D
S-17	1200/50 360 (400-1)			1200/60 360 (400-1¼)
CIRCLING	1360-1 519 (600-1)		1360-1½ 519 (600-1½)	1460-2 619 (700-2)

FAF to MAP 5.9 NM

Knots	60	90	120	150	180
Min:Sec	5:54	3:56	2:57	2:22	1:58

LOC I-SIJ	APP CRS	Rwy ldg	10018
110.5	224°	TDZE	828
		Apt Elev	841

LOC RWY 22

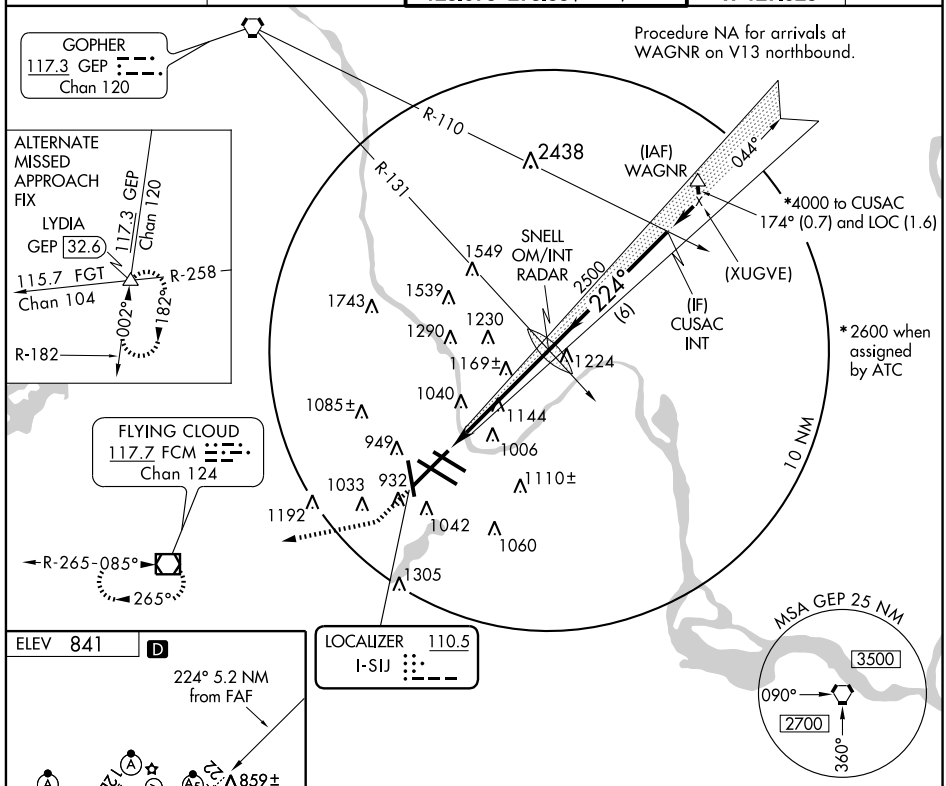
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

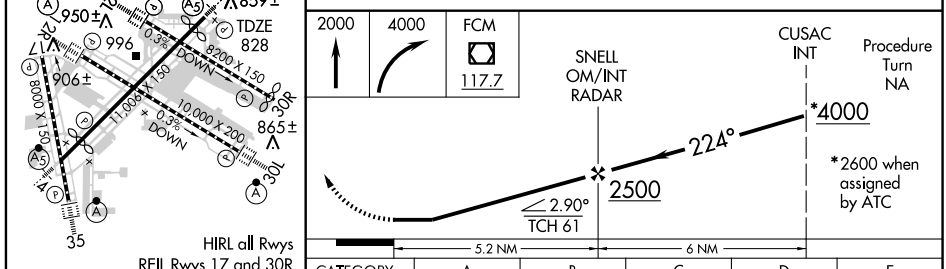
For inoperative MALSR increase S-22 Cat A and B visibility to RVR 5000 and Cat E visibility to 2 miles. Visiblility reduction by helicopters NA.

MALSR

MISSED APPROACH: Climb to 2000 then climbing right turn to 4000 direct FCM VOR/DME and hold, continue climb-in-hold to 4000.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2





FAF to MAP 5.2 NM					
Knots	60	90	120	150	180
Min:Sec	5:12	3:28	2:36	2:05	1:44

CATEGORY	A	B	C	D	E
S-22	1420/40 592 (600-¾)		1420/50 592 (600-1)	1420/60 592 (600-1¼)	1420-1½ 592 (600-1½)
CIRCLING	1420-1 579 (600-1)		1420-1½ 579 (600-1½)	1460-2 619 (700-2)	1660-3 819 (900-3)

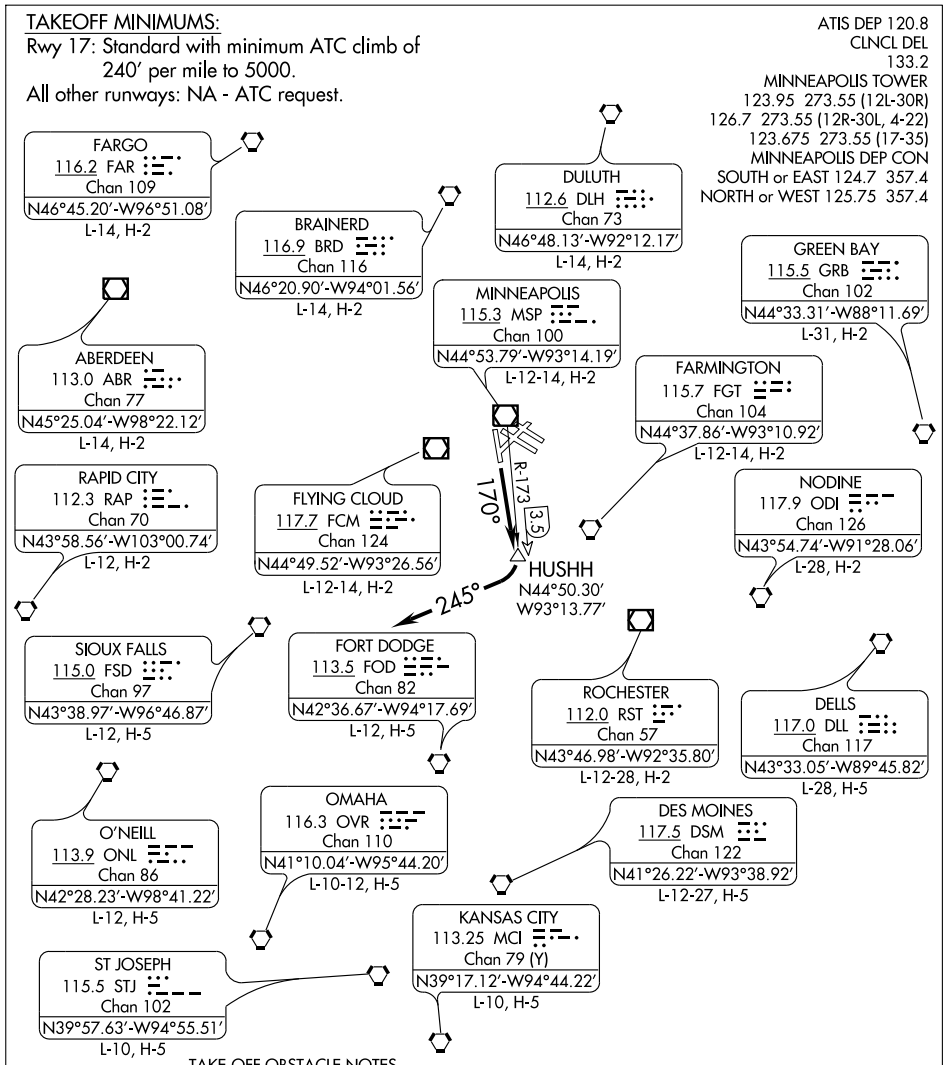
NC-1. 08 APR 2010 to 06 MAY 2010

MEADOW LAKE ONE DEPARTURE

SL-264 (FAA) MINNEAPOLIS, MINNESOTA

TAKEOFF MINIMUMS:
Rwy 17: Standard with minimum ATC climb of 240′ per mile to 5000.
All other runways: NA - ATC request.

ATIS DEP 120.8
CLNCL DEL 133.2
MINNEAPOLIS TOWER
123.95 273.55 (12L-30R)
126.7 273.55 (12R-30L, 4-22)
123.675 273.55 (17-35)
MINNEAPOLIS DEP CON
SOUTH or EAST 124.7 357.4
NORTH or WEST 125.75 357.4



TAKE-OFF OBSTACLE NOTES

RWY 17: Building 199′ from DER, 496′ left of centerline, 67′ AGL/898′ MSL.
Multiple poles beginning 188′ from DER, 240′ right of centerline, up to 160′ AGL/866′ MSL.
Wind direction indicator on building 2619′ from DER, 881′ left of centerline, 97′ AGL/918′ MSL.
Building 2619′ from DER, 859′ left of centerline, 84′ AGL/905′ MSL.
Building 2336′ from DER, 385′ right of centerline, 154′ AGL/983′ MSL.

NOTE: RADAR required.
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTION

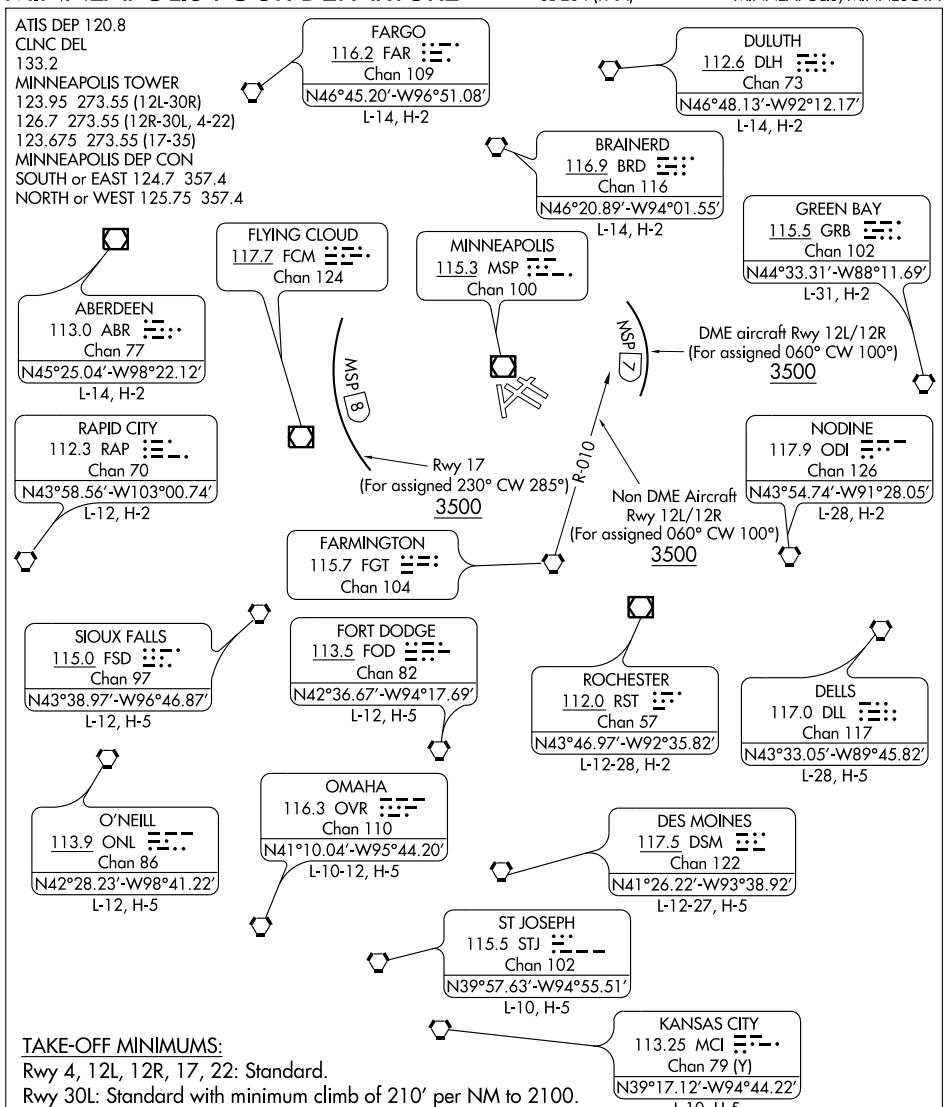
TAKE-OFF RUNWAY 17: Climb via 170° to HUSHH/MSP VOR/DME 3.5 DME then right turn via 245° and continue climb (turbojet aircraft maintain 7000 or lower as assigned, all other aircraft maintain 5000 or lower as assigned). Then via vectors to assigned route/fix, expect clearance to assigned altitude/flight level 10 minutes after departure.

NC-1, 08 APR 2010 to 06 MAY 2010

MINNEAPOLIS FOUR DEPARTURE

SL-264 (FAA) MINNEAPOLIS, MINNESOTA

ATIS DEP 120.8
CLNC DEL
133.2
MINNEAPOLIS TOWER
123.95 273.55 (12L-30R)
126.7 273.55 (12R-30L, 4-22)
123.675 273.55 (17-35)
MINNEAPOLIS DEP CON
SOUTH or EAST 124.7 357.4
NORTH or WEST 125.75 357.4



TAKE-OFF MINIMUMS:
Rwy 4, 12L, 12R, 17, 22: Standard.
Rwy 30L: Standard with minimum climb of 210′ per NM to 2100.
Rwy 30R: Standard with minimum climb of 220′ per NM to 2100.
Rwy 35: Standard with minimum climb of 219′ per NM to 2100.

NOTE: Runway 12L/R DME aircraft minimum ATC climb of 546′ per NM to 3500.
NOTE: Runway 12L/R Non-DME aircraft minimum ATC climb of 594′ per NM to 3500.
NOTE: Runway 17 minimum ATC climb of 403′ per NM to 3500.

(NARRATIVE ON FOLLOWING PAGE)

NOTE: RADAR Required.
NOTE: Chart not to scale.

NC-1, 08 APR 2010 to 06 MAY 2010

DEPARTURE ROUTE DESCRIPTION

ALL AIRCRAFT: Expect radar vectors to join filed/assigned route. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude. Expect clearance to assigned altitude/flight level 10 (ten) minutes after departure.

DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES: For assigned heading from 060° clockwise to 100°, cross MSP 7 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure.

NON-DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES: For assigned headings from 060° clockwise to 100°, cross FGT R-010 at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure.

TAKE-OFF RUNWAY 17: For assigned headings from 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure.

TAKE-OFF OBSTACLE NOTES:

RWY 4: Multiple trees beginning 800′ from DER, 264′ left of centerline, up to 75′ AGL/921′ MSL.
Rod on building 2528′ from DER, 1175′ left of centerline, 78′ AGL/922′ MSL.
Fence 803′ from DER, 585′ left of centerline, 15′ AGL/860′ MSL.
Antenna on OL building 456′ from DER, 319′ left of centerline, 13′ AGL/850′ MSL.
Light poles 1932′ from DER, 718′ left of centerline, 45′ AGL/885′ MSL.
Stack 4535′ from DER, 481′ left of centerline, 139′ AGL/949′ MSL.

RWY 22: Tree 2906′ from DER, 833′ right of centerline, 94′ AGL/934′ MSL.
Hopper 1717′ from DER, 456′ left of centerline, 48′ AGL/888′ MSL.

RWY 17: Antenna 1272′ from DER, 562′ right of centerline, 57′ AGL/891′ MSL.
Pole 409′ from DER, 530′ right of centerline, 29′ AGL/866′ MSL.
Wind direction indicator on building 2619′ from DER, 881′ left of centerline, 97′ AGL/918′ MSL.
Building 2619′ from DER, 859′ left of centerline, 84′ AGL/905′ MSL.
Light 1176′ from DER, 291′ right of centerline, 11′ AGL/875′ MSL.
Tree 2619′ from DER, on centerline, 79′ AGL/900′ MSL.

RWY 30L: Multiple trees beginning 1113′ from DER, 701′ left of centerline , up to 80′ AGL/919′ MSL.
Tree 1230′ from DER, 633′ right of centerline, 30′ AGL/877′ MSL.
Ground 28′ from DER, 490′ right of centerline 0′ AGL/844′ MSL.

RWY 30R: Building 1056′ from DER, 198′ left of centerline, 13′ AGL/853′ MSL.
Multiple trees beginning 3010′ from DER, 334′ left of centerline, up to 94′ AGL/940′ MSL.
Light pole 1849′ from DER, 698′ right of centerline, 17′ AGL/871′ MSL.
Fence 1327′ from DER, 667′ right of centerline, 8′ AGL/857′ MSL.
Tree 3703′ from DER, 350′ right of centerline, 67′ AGL/914′ MSL.
Rod on pole 3143′ from DER, 47′ right of centerline, 38′ AGL/898′ MSL.

RWY 35: Tree 175′ from DER, 398′ right of centerline, 73′ AGL/883′ MSL.
Multiple trees beginning 1989′ from DER, 351′ left of centerline, up to 65′ AGL/902′ MSL.
Multiple buildings beginning 5.5 NM from DER, 1787′ left of centerline, up to 811′ AGL/1743′ MSL.

RWY 12R: Multiple trees beginning 1477′ from DER, 407′ left of centerline, up to 86′ AGL/851′ MSL.
Multiple trees beginning 1426′ from DER, 124′ right of centerline, up to 111′ AGL/847′ MSL.
Light pole 1408′ from DER, 746′ right of centerline, 85′ AGL/843′ MSL.
Radar reflector 983′ from DER, 32′ left of centerline, 15′ AGL/829′ MSL.
Pipe on building, 826′ from DER, 576′ left of centerline, 10′ AGL/825′ MSL.
OL on LOC 766′ from DER, on centerline, 7′ AGL/821′ MSL.

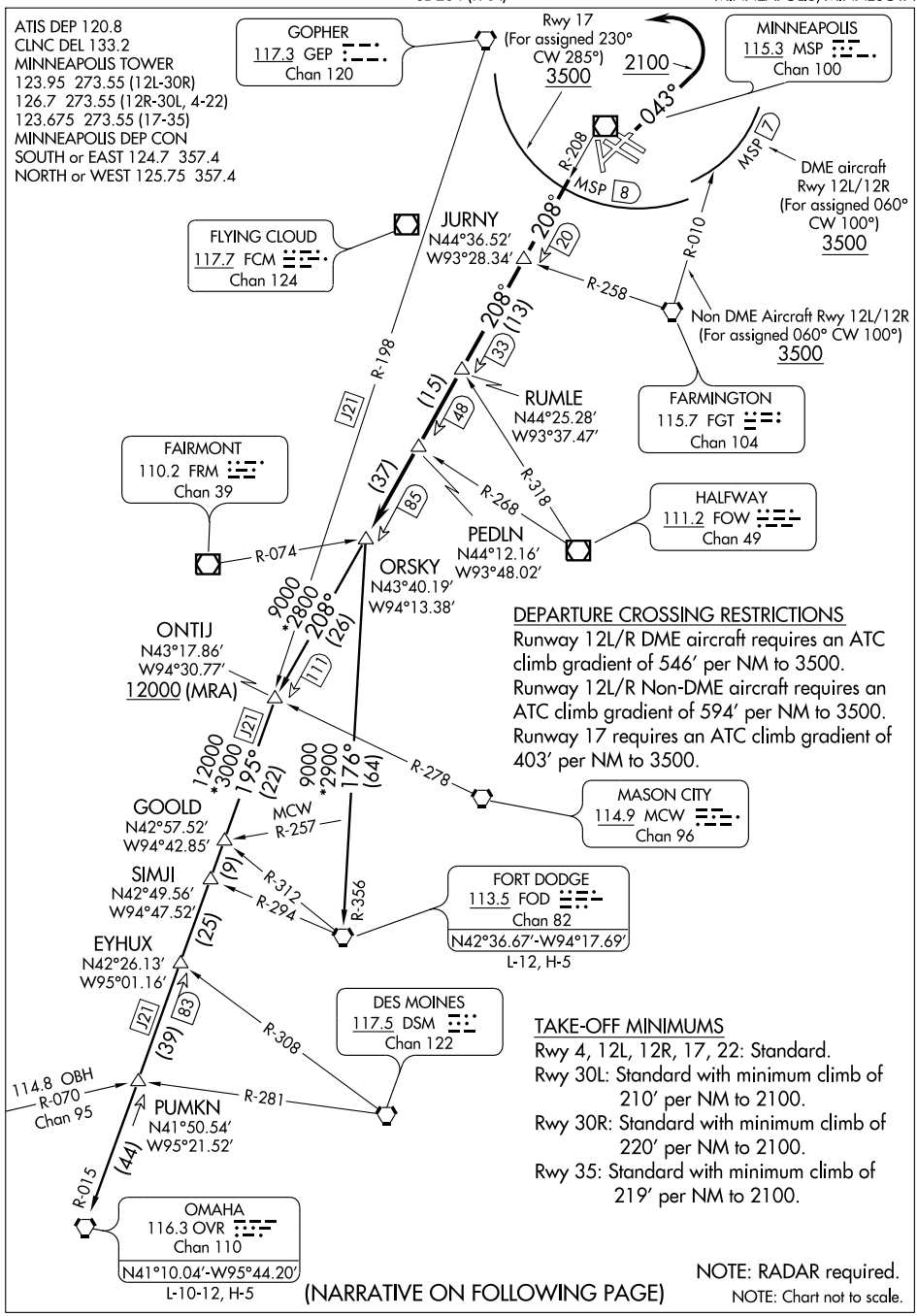
NC-1, 08 APR 2010 to 06 MAY 2010

(ORSKY4.ORSKY) 10098

ORSKY FOUR DEPARTURE

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)
SL-264 (FAA)
MINNEAPOLIS, MINNESOTA

ATIS DEP 120.8
CLNC DEL 133.2
MINNEAPOLIS TOWER
123.95 273.55 (12L-30R)
126.7 273.55 (12R-30L, 4-22)
123.675 273.55 (17-35)
MINNEAPOLIS DEP CON
SOUTH or EAST 124.7 357.4
NORTH or WEST 125.75 357.4



DEPARTURE CROSSING RESTRICTIONS

Runway 12L/R DME aircraft requires an ATC climb gradient of 546′ per NM to 3500.
Runway 12L/R Non-DME aircraft requires an ATC climb gradient of 594′ per NM to 3500.
Runway 17 requires an ATC climb gradient of 403′ per NM to 3500.

TAKE-OFF MINIMUMS

Rwy 4, 12L, 12R, 17, 22: Standard.
Rwy 30L: Standard with minimum climb of 210′ per NM to 2100.
Rwy 30R: Standard with minimum climb of 220′ per NM to 2100.
Rwy 35: Standard with minimum climb of 219′ per NM to 2100.

NOTE: RADAR required.
NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

NC-1, 08 APR 2010 to 06 MAY 2010

ORSKY FOUR DEPARTURE

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF ALL RUNWAYS: Fly assigned heading for radar vectors to MSP R-208 to ORSKY INT/MSP 85 DME. Turbojet aircraft maintain 7000 or lower assigned altitude. All other aircraft maintain 5000 or lower assigned altitude.

TAKE-OFF RUNWAY 17: For assigned headings from 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

DME EQUIPPED AIRCRAFT RWY 12L/R: For assigned headings from 060° clockwise to 100°, cross MSP 7 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

NON DME EQUIPPED AIRCRAFT RWY 12L/R: For assigned headings from 060° clockwise to 100°, cross FGT R-010 at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

TAKE-OFF RUNWAY 4: Climb heading 043° to 2100 before turning left.

TAKE-OFF RUNWAYS 22, 30L/R, 35: Initially assigned heading, Thence. . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

FORT DODGE TRANSITION (ORSKY4.FOD): From over ORSKY INT via FOD R-356 to FOD VORTAC.

OMAHA TRANSITION (ORSKY4.OVR): From over ORSKY INT via MSP R-208 to ONTIJ INT then via OVR R-015 to OVR VORTAC.

TAKE-OFF OBSTACLE NOTES

RWY 4: Multiple trees beginning 800′ from DER, 264′ left of centerline, up to 75′ AGL/921′ MSL.
Rod on building 2528′ from DER, 1175′ left of centerline, 78′ AGL/922′ MSL.
Fence 803′ from DER, 585′ left of centerline, 15′ AGL/860′ MSL.
Antenna on OL building 456′ from DER, 319′ left of centerline, 13′ AGL/850′ MSL.
Light poles 1932′ from DER, 718′ left of centerline, 45′ AGL/885′ MSL.
Stack 4535′ from DER, 481′ left of centerline, 139′ AGL/949′ MSL.
Hopper 1717′ from DER, 456′ left of centerline, 48′ AGL/888′ MSL.

RWY 12R: Multiple trees beginning 1477′ from DER, 407′ left of centerline, up to 86′ AGL/851′ MSL.
Multiple trees beginning 1426′ from DER, 124′ right of centerline, up to 111′ AGL/847′ MSL.
Light pole 1408′ from DER, 746′ right of centerline, 85′ AGL/843′ MSL.
Radar reflector 983′ from DER, 32′ left of centerline, 15′ AGL/829′ MSL.
Pipe on building, 826′ from DER, 576′ left of centerline, 10′ AGL/825′ MSL.
OL on LOC 766′ from DER, on centerline, 7′ AGL/821′ MSL.

RWY 17: Antenna 1272′ from DER, 562′ right of centerline, 57′ AGL/891′ MSL.
Pole 409′ from DER, 530′ right of centerline, 29′ AGL/866′ MSL.
Wind direction indicator on building 2619′ from DER, 881′ left of centerline, 97′ AGL/918′ MSL.
Building 2619′ from DER, 859′ left of centerline, 84′ AGL/905′ MSL
Light 1176′ from DER, 291′ right of centerline, 11′ AGL/875′ MSL.
Tree 2619′ from DER, on centerline, 79′ AGL/900′ MSL.

RWY 22: Tree 2906′ from DER, 833′ right of centerline, 94′ AGL/934′ MSL.

RWY 30L: Multiple trees beginning 1113′ from DER, 701′ left of centerline , up to 80′ AGL/919′ MSL.
Tree 1230′ from DER, 633′ right of centerline, 30′ AGL/877′ MSL.
Ground 28′ from DER, 490′ right of centerline 0′ AGL/844′ MSL.

RWY 30R: Building 1056′ from DER, 198′ left of centerline, 13′ AGL/853′ MSL.
Multiple trees beginning 3010′ from DER, 334′ left of centerline, up to 94′ AGL/940′ MSL.
Light pole 1849′ from DER, 698′ right of centerline, 17′ AGL/871′ MSL.
Fence 1327′ from DER, 667′ right of centerline, 8′ AGL/857′ MSL.
Tree 3703′ from DER, 350′ right of centerline, 67′ AGL/914′ MSL.
Rod on pole 3143′ from DER, 47′ right of centerline, 38′ AGL/898′ MSL.

RWY 35: Tree 175′ from DER, 398′ right of centerline, 73′ AGL/883′ MSL.
Multiple trees beginning 1989′ from DER, 351′ left of centerline, up to 65′ AGL/902′ MSL.
Multiple buildings beginning 5.5 NM from DER, 1787′ left of centerline, up to 811′ AGL/1743′ MSL.

NC-1, 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	9456
043°	TDZE	832
	Apt Elev	841

RNAV (GPS) RWY 4

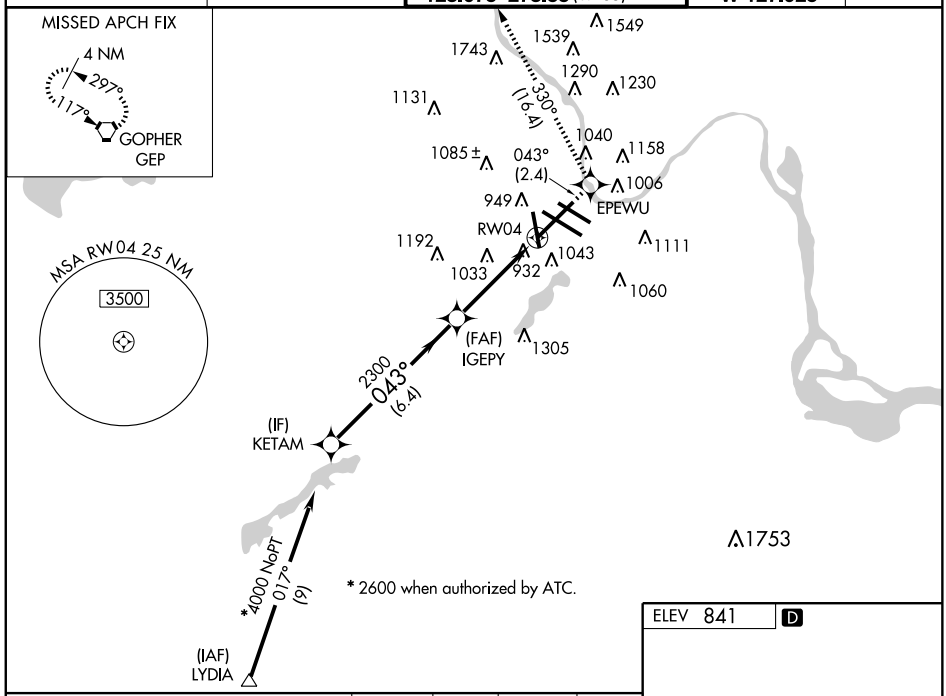
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

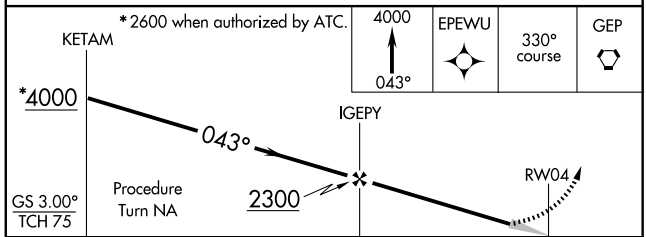
For inoperative MALSR, increase LNAV/VNAV and LNAV Cat. E visibility to 1¾.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F).
DME/DME RNP- 0.3 NA.

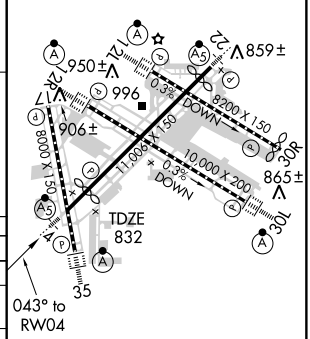
MALSR

MISSED APPROACH: Climb to 4000 via 043° course to EPEWU WP then via 330° course to GEP VORTAC and hold.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2







CATEGORY	A	B	C	D	E
GLS PA DA	NA				
LNAV/VNAV DA	1296/50 464 (500-1)				
LNAV MDA	1300/24 468 (500-½)		1300/40 468 (500-¾)	1300/50 468 (500-1)	1300/60 468 (500-1¼)
CIRCLING	1360-1 519 (600-1)			1460-2 619 (700-2)	1660-3 819 (900-3)

HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 45525 W12B	APP CRS 119°	Rwy ldg 7620 TDZE 839 Apt Elev 841

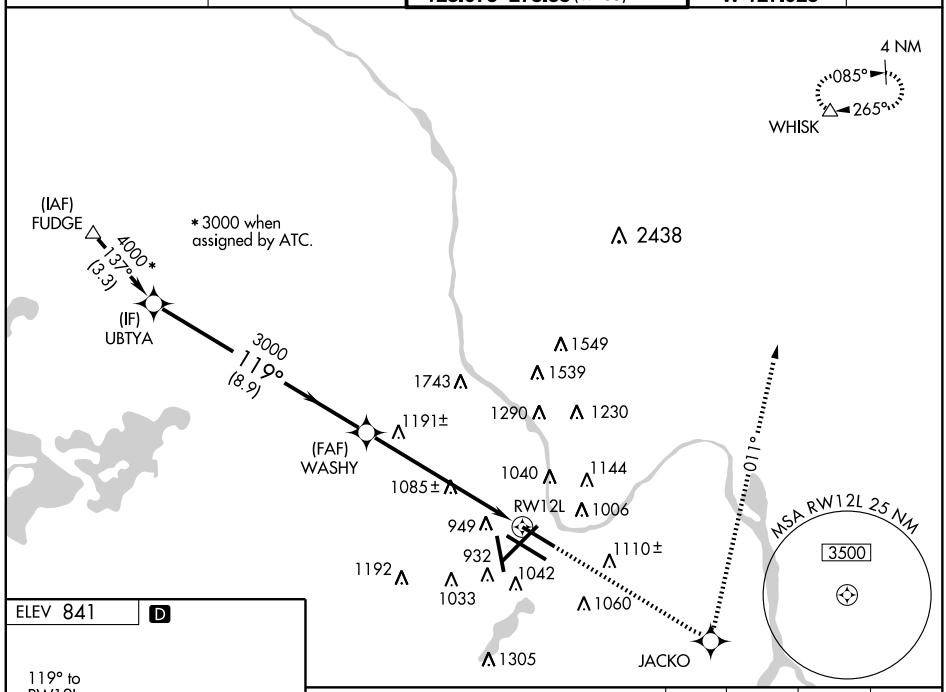
RNAV (GPS) RWY 12L
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

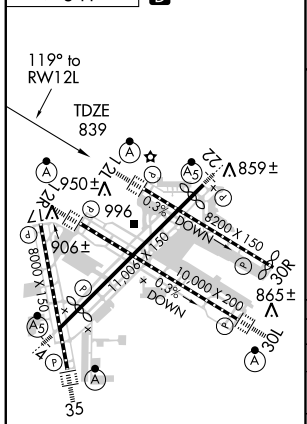
For inoperative ALSF, increase LPV Cat E visibility to RVR 4000, LNAV/VNAV Cat E visibility to 1½ mile and LNAV Cat E visibility to 2½ mile. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F). DME/DME RNP- 0.3 NA.

ALSF-2

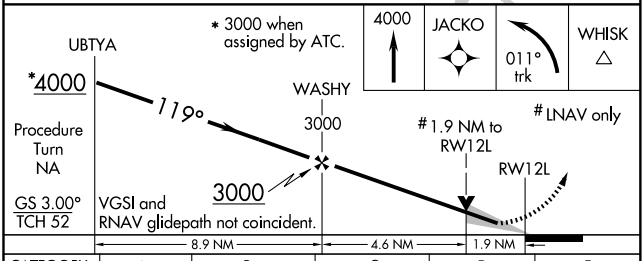
MISSED APPROACH: Climb to 4000 direct JACKO and left turn via track 011° to WHISK and hold.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2





HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35



CATEGORY	A	B	C	D	E
LPV DA	1039/24 200 (200-½)				
LNAV/VNAV DA	1248/50 409 (500-1)				
LNAV MDA	1520/24 681 (700-½)		1520-1½ 681 (700-1½)	1520-1¾ 681 (700-1¾)	1520-2 681 (700-2)
CIRCLING	1520-1 679 (700-1)		1520-2 679 (700-2)	1520-2¼ 679 (700-2¼)	1660-3 819 (900-3)

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 50125 W12A	APP CRS 119°	Rwy ldg 10000 TDZE 841 Apt Elev 841

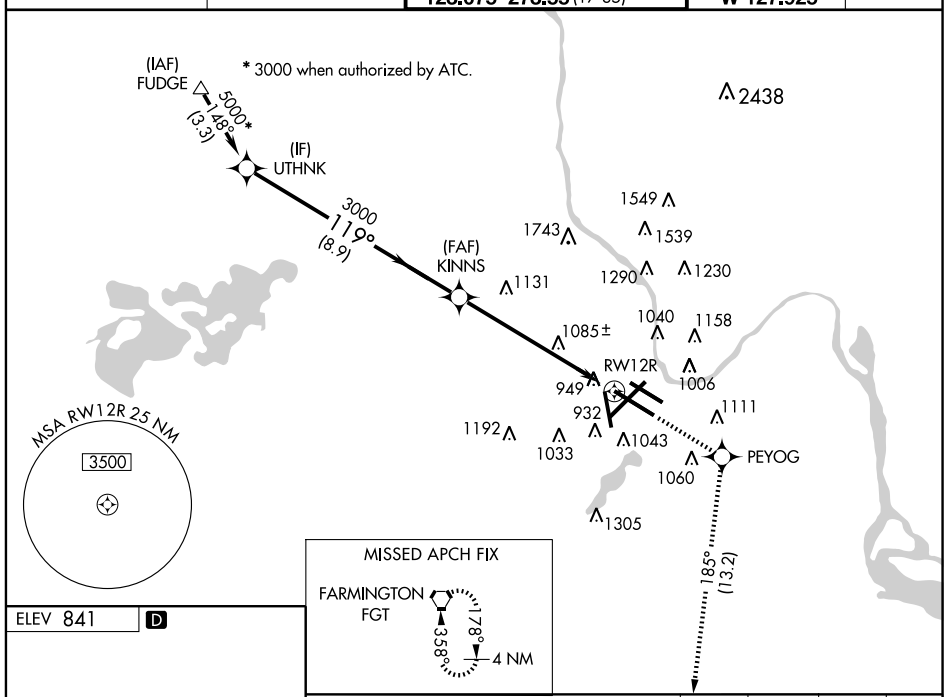
RNAV (GPS) RWY 12R
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

DME/DME RNP- 0.3 NA.
Baro-VNAV NA below -16°C (4°F).
For inoperative ALSF, increase LPV all Cats visibility to RVR 5000, increase LNAV/VNAV Cat E visibility to 1½, increase LNAV Cat E visibility to 2¼.

ALSF-2

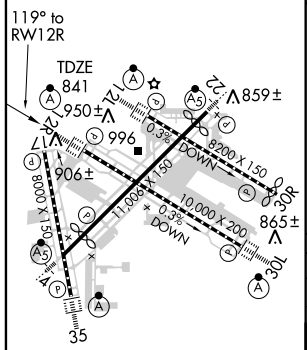
MISSED APPROACH: Climb to 5000 direct PEYOG and via 185° track to FGT VORTAC and hold.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2

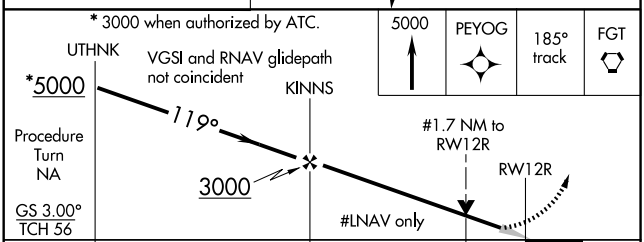


MISSED APCH FIX

ELEV 841 D



HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35



CATEGORY	A	B	C	D	E
LPV DA	1119/24 278 (300-½)				
LNAV/VNAV DA	1294/50 453 (500-1)				
LNAV MDA	1460/24 619 (700-½)		1460/60 619 (700-1¼)	1460-1½ 619 (700-1½)	1460-1¾ 619 (700-1¾)
CIRCLING	1460-1½ 619 (700-1½)		1460-1¾ 619 (700-1¾)	1460-2 619 (700-2)	1660-3 819 (900-3)

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 60927 W22A	APP CRS 223°	Rwy ldg 10018 TDZE 828 Apt Elev 841

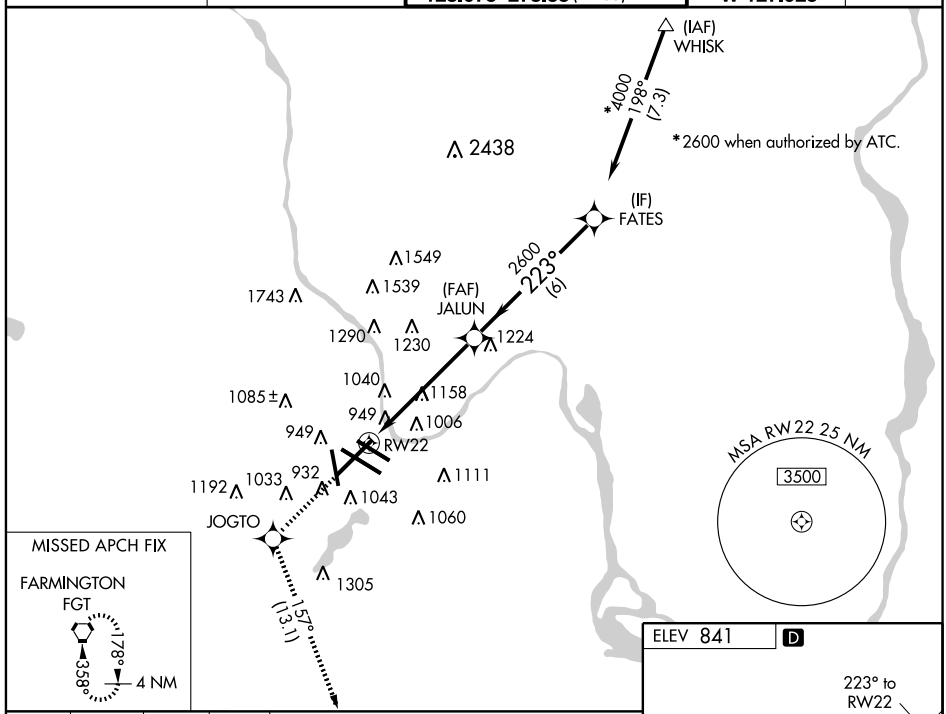
RNAV (GPS) RWY 22
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

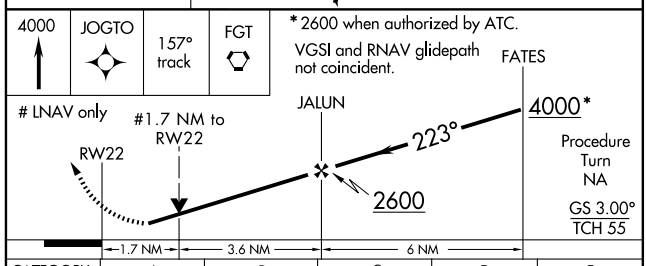
DME/DME RNP- 0.3 NA.
Baro-VNAV NA below -16°C (4°F).
For inoperative MALSR, increase LPV all CATS visibility to RVR 6000, increase LNAV CAT A and B visibility to RVR 5000.

MALSR

MISSED APPROACH: Climb to 4000 direct JOGTO and via 157° track to FGT VORTAC and hold.

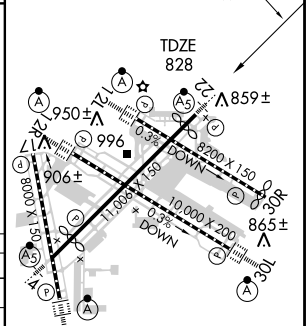
ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2





CATEGORY	A	B	C	D	E
LPV DA	1190/40 362 (400-¾)				
LNAV/VNAV DA	1227/40 399 (400-¾)				1227/50 399 (400-1)
LNAV MDA	1420/40 592 (600-¾)		1420/50 592 (600-1)	1420/60 592 (600-1¼)	1420-1½ 592 (600-1½)
CIRCLING	1420-1¼ 579 (600-1¼)		1420-1½ 579 (600-1½)	1460-2 619 (700-2)	1660-3 819 (900-3)

ELEV 841 D



HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35

WAAS CH 56225 W30A	APP CRS 299°	Rwy ldg 10000 TDZE 823 Apt Elev 841

RNAV (GPS) RWY 30L

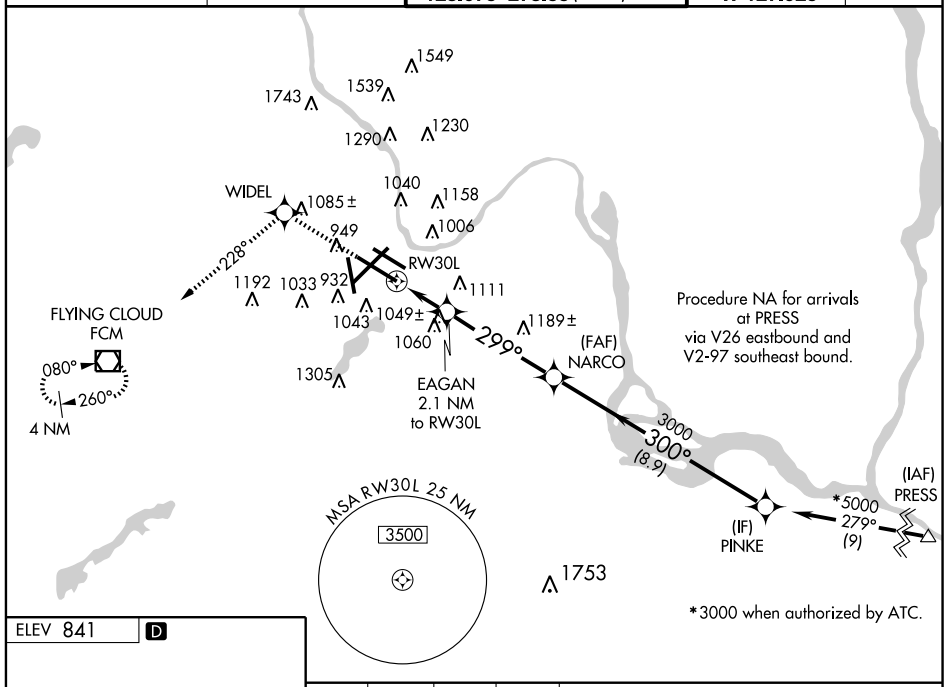
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

For inoperative ALSF, increase LPV all Cats visibility to RVR 4000, increase LNAV/VNAV Cat E visibility to 2, increase LNAV Cat E visibility to 2. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -16°C (4°F) or above 47°C (116°F). DME/DME RNP-0.3 NA.

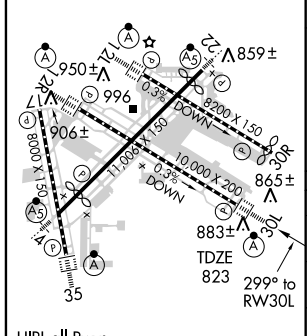
ALSF-2

MISSED APPROACH: Climb to 4000 direct WIDEL and via 228° track to FCM VOR/DME and hold.

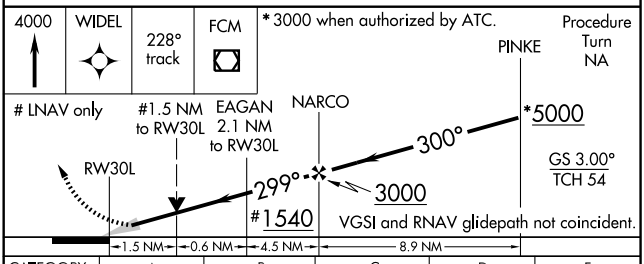
ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2



ELEV 841 D



HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35



CATEGORY	A	B	C	D	E
LPV DA	1023/18 200 (200-½)				
LNAV/VNAV DA	1368-1½ 545 (600-1½)				
LNAV MDA	1360/24 537 (600-½)		1360/50 537 (600-1)	1360/60 537 (600-1¼)	1360-1½ 537 (600-1½)
CIRCLING	1360-1 519 (600-1)		1360-1½ 519 (600-1½)	1460-2 619 (700-2)	1660-3 819 (900-3)

NC-1. 08 APR 2010 to 06 MAY 2010

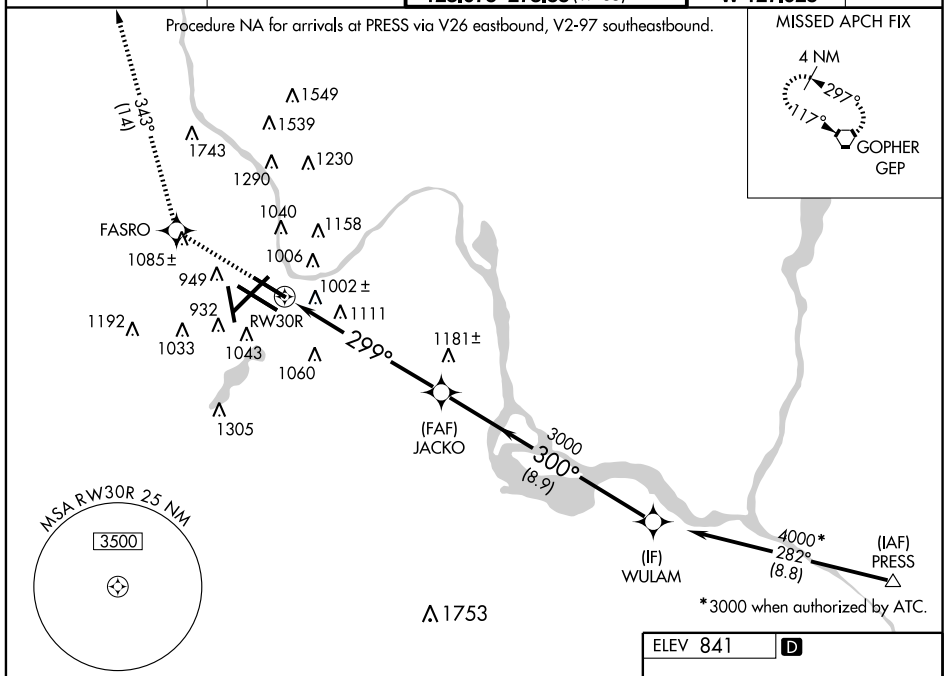
WAAS CH 60925 W30B	APP CRS 299°	Rwy ldg 8000 TDZE 823 Apt Elev 841

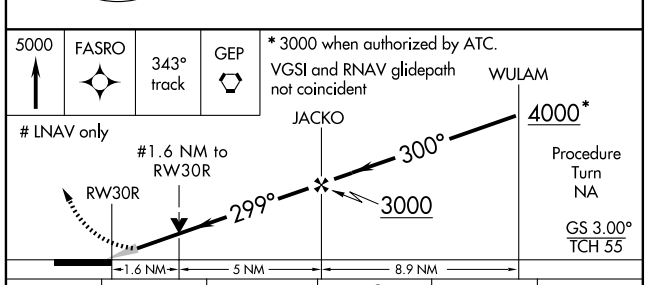
RNAV (GPS) RWY 30R
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

DME/DME RNP- 0.3 NA.
Baro-VNAV NA below -16°C (4°F).

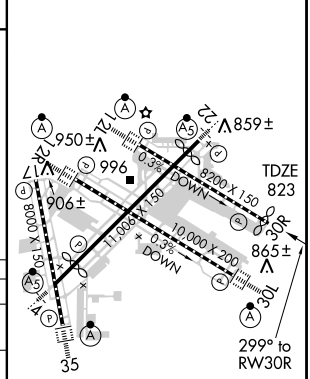
MISSED APPROACH: Climb to 5000 direct FASRO and via 343° track to GEP VORTAC and hold.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2





CATEGORY	A	B	C	D	E
LPV DA	1073/40 250 (300-¾)				
LNAV/VNAV DA	1294-1¾ 471 (500-1¾)				
LNAV MDA	1400/50 577 (600-1)		1400-1½ 577 (600-1½)	1400-1¾ 577 (600-1¾)	1400-2 577 (600-2)
CIRCLING	1400-1 559 (600-1)		1400-1½ 559 (600-1½)	1460-2 619 (700-2)	1660-3 819 (900-3)



HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 90128 W35A	APP CRS 348°	Rwy ldg 8000 TDZE 834 Apt Elev 841

RNAV (GPS) Z RWY 35

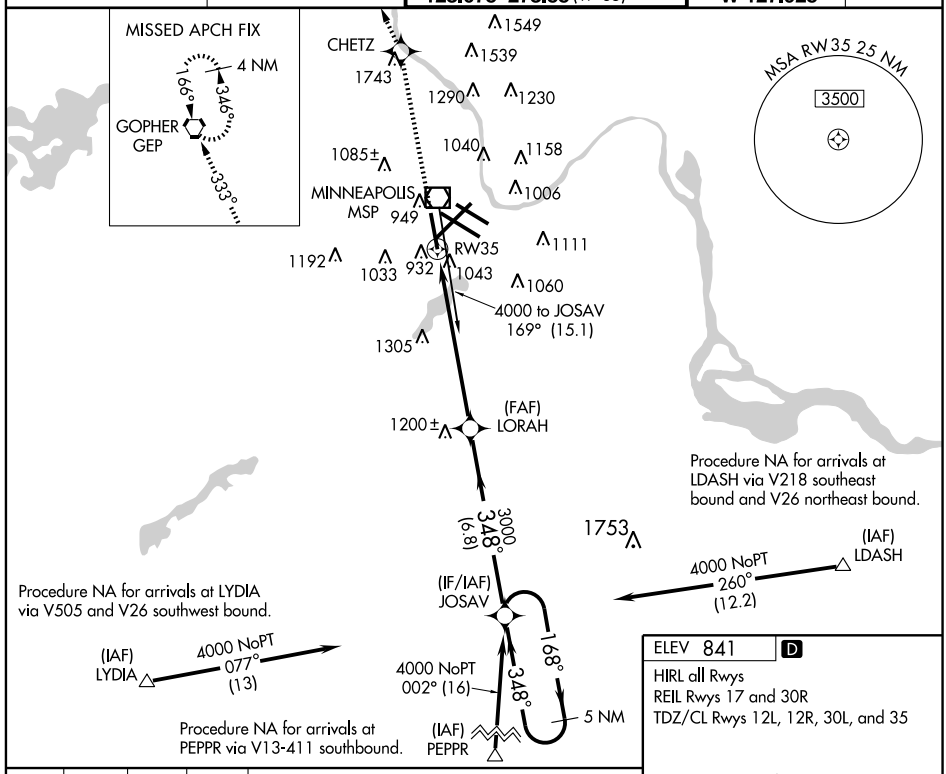
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

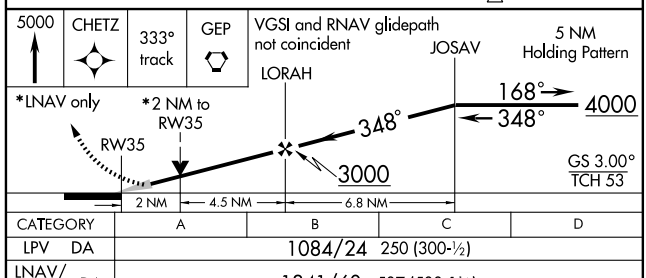
For inoperative ALSF increase LPV visibility to RVR 4000.
Baro-VNAV NA below -13°C (8°F).
DME/DME RNP-0.3 NA

ALSF-2

MISSED APPROACH: Climb to 5000 direct CHETZ and via 333° track to GOPHER VORTAC and hold, continue climb-in-hold to 5000.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2

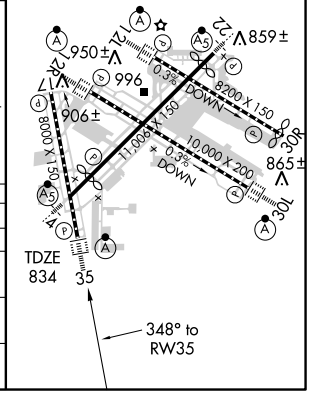




CATEGORY	A	B	C	D
LPV DA	1084/24 250 (300-½)			
LNAV/VNAV DA	1341/60 507 (500-1¼)			
LNAV MDA	1540/24 706 (700-½)		1540-1½ 706 (700-1½)	1540-1¾ 706 (700-1¾)
CIRCLING	1540-1 699 (700-1)		1540-2 699 (700-2)	1540-2¼ 699 (700-2¼)

ELEV 841 D

HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35



NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	8000
348°	TDZE	834
	Apt Elev	841

RNAV (RNP) Y RWY 35

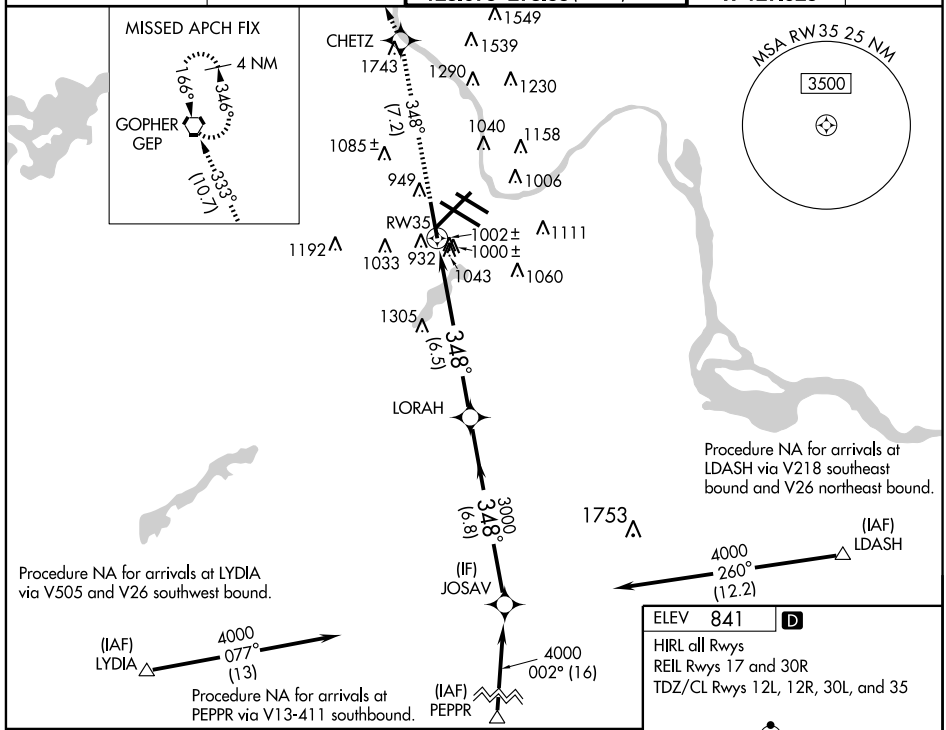
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

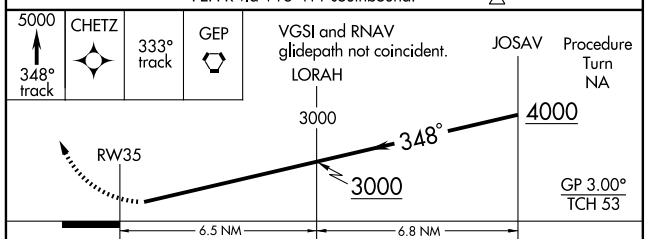
T NA Visibility reduction by helicopters NA.
When VGSI inop, procedure NA at night. GPS required.
For uncompensated Baro-VNAV systems, procedure NA below -13°C (8°F) or above 47°C (117°F).
For inoperative ALSF, increase RNP 0.19 visibility to 1½ and RNP 0.30 visibility to 1¾.

ALSF-2

MISSED APPROACH: Climb to 5000 via 348° track to CHETZ and via 333° track to GEP VORTAC and hold, continue climb-in-hold to 5000.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2



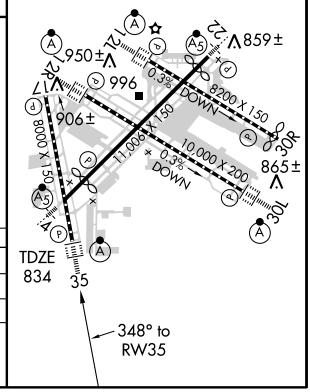


CATEGORY	A	B	C	D
RNP 0.19 DA	1286/50	452 (500-1)		
RNP 0.30 DA	1329/60	495 (500-1¼)		

SPECIAL AIRCRAFT & AIRCREW AUTHORIZATION REQUIRED

ELEV 841 D

HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35

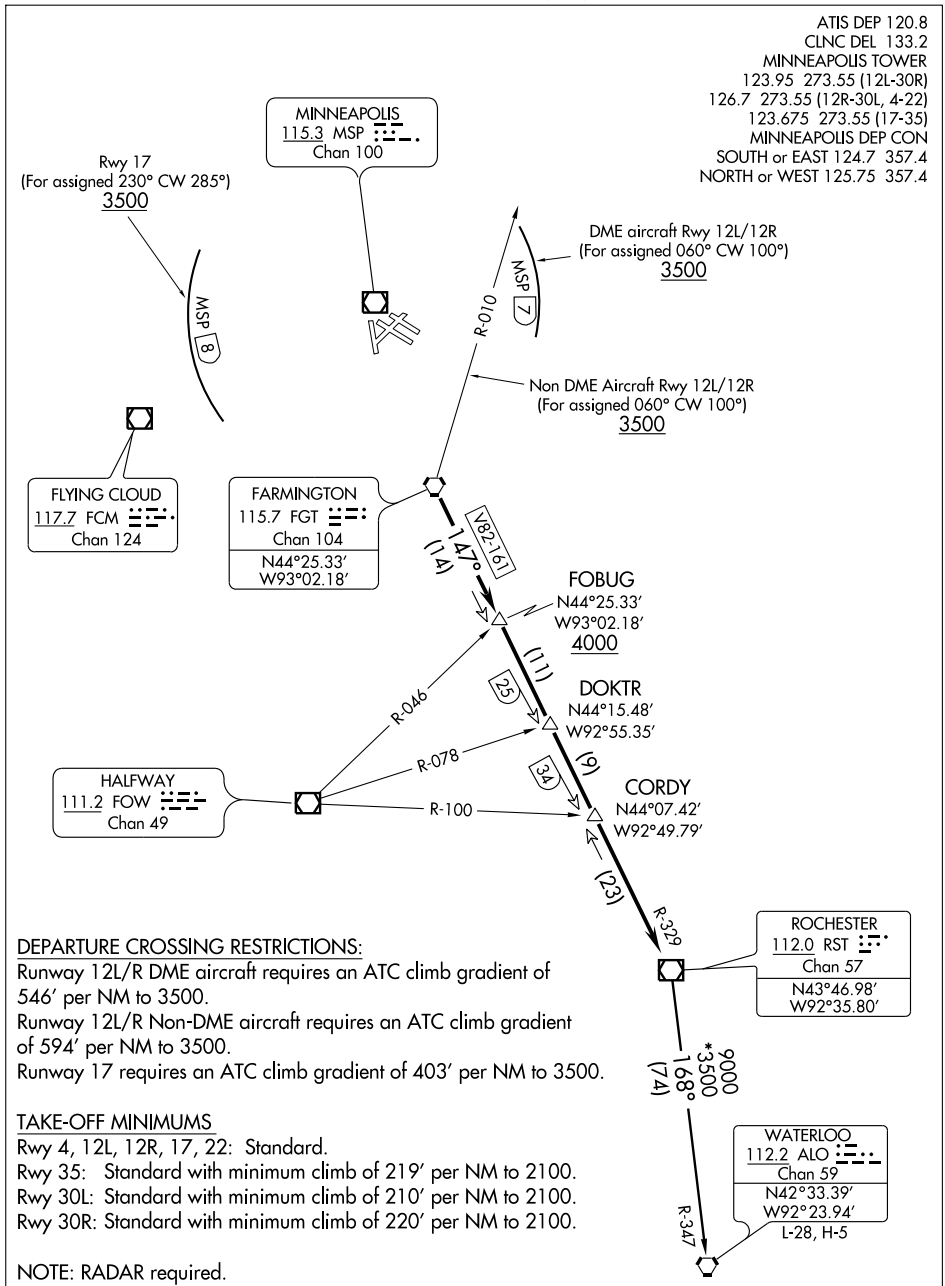


ROCHESTER FOUR DEPARTURE

SL-264 (FAA)

MINNEAPOLIS, MINNESOTA

ATIS DEP 120.8
CLNC DEL 133.2
MINNEAPOLIS TOWER
123.95 273.55 (12L-30R)
126.7 273.55 (12R-30L, 4-22)
123.675 273.55 (17-35)
MINNEAPOLIS DEP CON
SOUTH or EAST 124.7 357.4
NORTH or WEST 125.75 357.4



DEPARTURE CROSSING RESTRICTIONS:

Runway 12L/R DME aircraft requires an ATC climb gradient of 546′ per NM to 3500.

Runway 12L/R Non-DME aircraft requires an ATC climb gradient of 594′ per NM to 3500.

Runway 17 requires an ATC climb gradient of 403′ per NM to 3500.

TAKE-OFF MINIMUMS

Rwy 4, 12L, 12R, 17, 22: Standard.

Rwy 35: Standard with minimum climb of 219′ per NM to 2100.

Rwy 30L: Standard with minimum climb of 210′ per NM to 2100.

Rwy 30R: Standard with minimum climb of 220′ per NM to 2100.

NOTE: RADAR required.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

NC-1, 08 APR 2010 to 06 MAY 2010

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF ALL RUNWAYS: Fly assigned heading for radar vectors to FGT VORTAC then via FGT R-147 and RST R-329 to RST VOR/DME. Cross FOBUG INT/FGT 14 DME at or above 4000. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude.

DME EQUIPPED AIRCRAFT RWY 12L/12R: For assigned headings from 060° clockwise to 100°, cross MSP 7 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

TAKE-OFF RUNWAY 17: For assigned headings from 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

NON DME EQUIPPED AIRCRAFT RWY 12L/12R: For assigned headings from 060° clockwise to 100°, cross FGT R-010 at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

TAKE-OFF RUNWAYS 4, 22, 30L/30R, 35: Initially assigned heading. Thence. . . .

. . . .via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

WATERLOO TRANSITION (RST4.ALO): From over RST VOR/DME via RST R-168 and ALO R-347 to ALO VORTAC.

TAKE-OFF OBSTACLE NOTES:

RWY 4: Multiple trees beginning 800′ from DER, 264′ left of centerline, up to 75′ AGL/921′ MSL. Rod on building 2528′ from DER, 1175′ left of centerline, 78′ AGL/922′ MSL. Fence 803′ from DER, 585′ left of centerline, 15′ AGL/860′ MSL. Antenna on OL building 456′ from DER, 319′ left of centerline, 13′ AGL/850′ MSL. Light poles 1932′ from DER, 718′ left of centerline, 45′ AGL/885′ MSL. Stack 4535′ from DER, 481′ left of centerline, 139′ AGL/949′ MSL.

RWY 12R: Multiple trees beginning 1477′ from DER, 407′ left of centerline, up to 86′ AGL/851′ MSL. Multiple trees beginning 1426′ from DER, 124′ right of centerline, up to 111′AGL/847′ MSL. Light pole 1408′ from DER, 746′ right of centerline, 85′ AGL/843′ MSL. Radar reflector 983′ from DER, 32′ left of centerline, 15′ AGL/829′ MSL. Pipe on building 826′ from DER, 576′ left of centerline, 10′ AGL/825′ AGL. OL on LOC 766′ from DER, on centerline, 7′ AGL/821′ MSL.

RWY 17: Antenna 1272′ from DER, 562′ right of centerline, 57′ AGL/891′ MSL. Pole 409′ from DER, 530′ right of centerline, 29′ AGL/866′ MSL. Wind direction indicator on building 2619′ from DER, 881′ left of centerline, 97′ AGL/918′ MSL. Building 2619′ from DER, 859′ left of centerline, 84′ AGL/905′ MSL. Light 1176′ from DER, 291′ right of centerline, 11′ AGL/875′ MSL. Tree 2619′ from DER, on centerline , 79′ AGL/900′ MSL.

RWY 22: Tree 2906′ from DER, 833′ right of centerline, 94′ AGL/934′ MSL. Hopper 1717′ from DER, 456′ left of centerline, 48′ AGL/888′ MSL.

RWY 30L: Multiple trees beginning 1113′ from DER, 701′ left of centerline , up to 80′ AGL/919′ MSL. Tree 1230′ from DER, 633′ right of centerline, 30′ AGL/877′ MSL. Ground 28′ from DER, 490′ right of centerline, 0′ AGL/844′ MSL.

RWY 30R: Building 1056′ from DER, 198′ left of centerline, 13′ AGL/853′ MSL. Multiple trees beginning 3010′ from DER, 334′ left of centerline, up to 94′ AGL/940′ MSL. Light pole 1849′ from DER, 698′ right of centerline, 17′ AGL/871′ MSL. Fence 1327′ from DER, 667′ right of centerline, 8′ AGL/ 857′ MSL. Tree 3703′ from DER, 350′ right of centerline, 67′ AGL/ 914′ MSL. Rod on pole 3143′ from DER, 47′ right of centerline, 38′ AGL/898′ MSL. Tree 175′ from DER, 398′ right of centerline, 73′ AGL/883′ MSL.

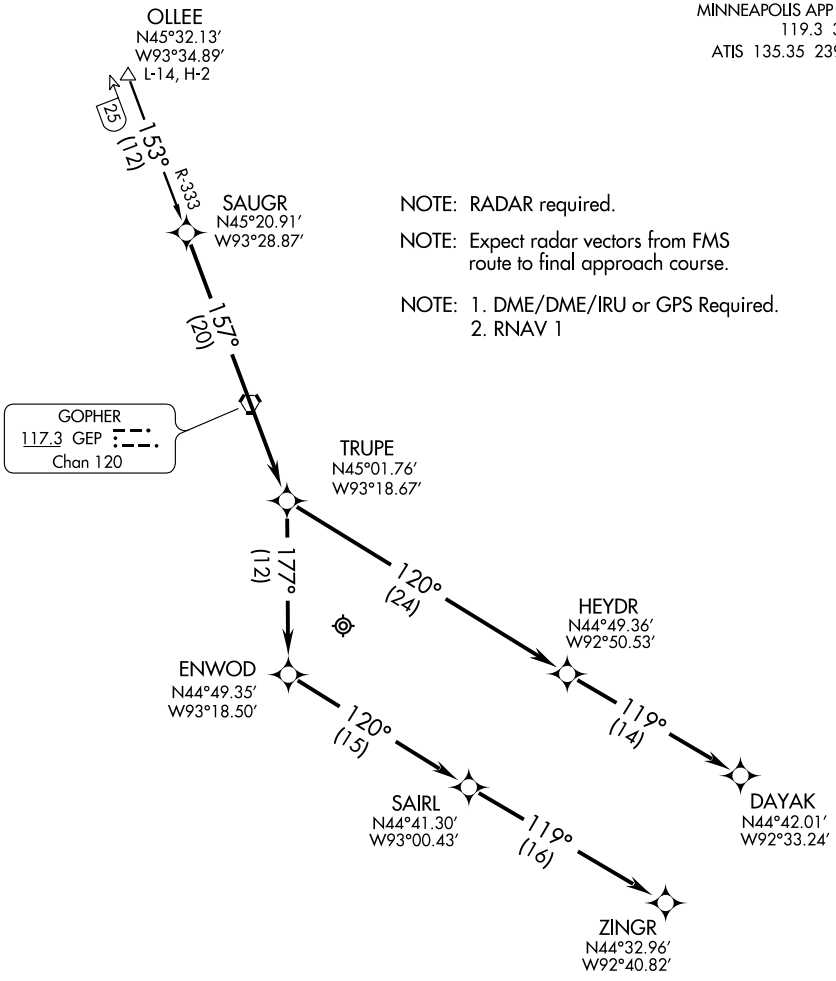
RWY 35: Multiple trees beginning 1989′ from DER, 351′ left of centerline, up to 65′ AGL/902′ MSL. Multiple buildings beginning 5.5 NM from DER, 1787′ left of centerline, up to 811′ AGL/1743′ MSL.

NC-1, 08 APR 2010 to 06 MAY 2010

SAUGR ONE (FMS) ARRIVAL

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN
ST-264 (FAA)
MINNEAPOLIS, MINNESOTA

MINNEAPOLIS APP CON
119.3 335.5
ATIS 135.35 239.275



NOTE: RADAR required.

NOTE: Expect radar vectors from FMS route to final approach course.

NOTE: 1. DME/DME/IRU or GPS Required.
2. RNAV 1

NOTE: Chart not to scale.

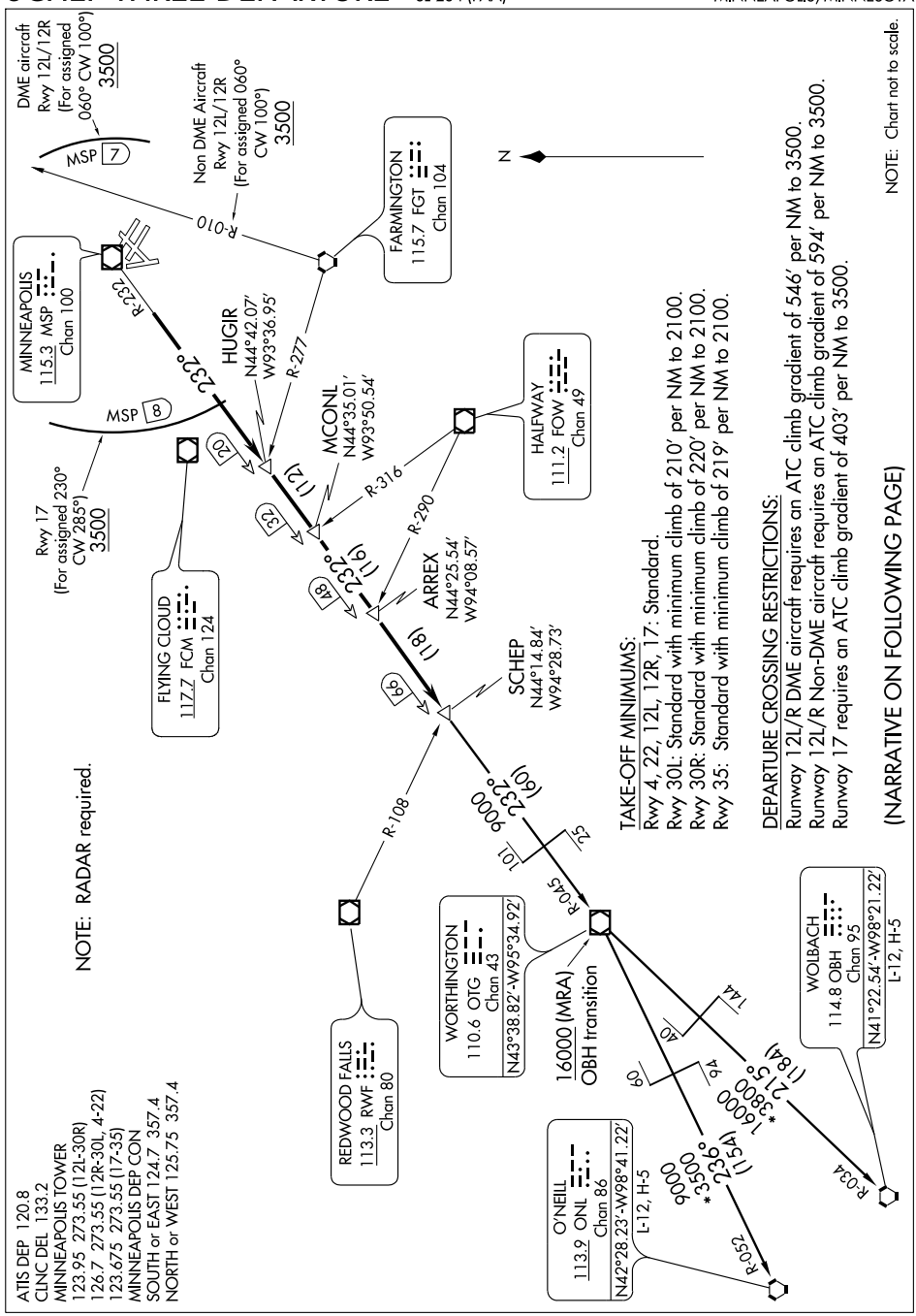
Via the GOPHER STAR from over SAUGR WP. Thence . . . .

FOR RUNWAY 30L ARRIVALS: To TRUPE WP to ENWOD WP to SAIRL WP to ZINGR WP.

FOR RUNWAY 30R ARRIVALS: To TRUPE WP to HEYDR WP to DAYAK WP.

SCHEP THREE DEPARTURE

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)
SL-264 (FAA)
MINNEAPOLIS, MINNESOTA



DEPARTURE ROUTE DESCRIPTION

TAKE-OFF ALL RUNWAYS: Fly assigned heading for radar vectors to MSP R-232 to SCHEP INT/MSP 66 DME. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude.

DME EQUIPPED AIRCRAFT RWY 12L/12R: For assigned headings from 060° clockwise to 100°, cross MSP 7 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

TAKE-OFF RUNWAY 17: For assigned headings from 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

NON DME EQUIPPED AIRCRAFT RWY 12L/12R: For assigned headings from 060° clockwise to 100°, cross FGT R-010 at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

TAKE-OFF RUNWAYS 4, 22, 30L/30R, 35: Initially assigned heading, thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

O'NEILL TRANSITION (SCHEP3.ONL): From over SCHEP INT via OTG R-045 to OTG VOR/DME. Then via OTG R-236 and ONL R-052 to ONL VORTAC.

WOLBACH TRANSITION (SCHEP3.OBH): From over SCHEP INT via OTG R-045 to OTG VOR/DME. Then via OTG R-215 and OBH R-034 to OBH VORTAC.

TAKE-OFF OBSTACLE NOTES:

RWY 4: Multiple trees beginning 800′ from DER, 264′ left of centerline, up to 75′ AGL/921′ MSL. Rod on building 2528′ from DER, 1175′ left of centerline, 78′ AGL/922′ MSL. Fence 803′ from DER, 585′ left of centerline, 15′ AGL/860′ MSL. Antenna on OL building 456′ from DER, 319′ left of centerline, 13′ AGL/850′ MSL. Light poles 1932′ from DER, 718′ left of centerline, 45′ AGL/885′ MSL. Stack 4535′ from DER, 481′ left of centerline, 139′ AGL/949′ MSL.

RWY 12R: Multiple trees beginning 1477′ from DER, 407′ left of centerline, up to 86′ AGL/851′ MSL. Multiple trees beginning 1426′ from DER, 124′ right of centerline, up to 111′AGL/847′ MSL. Light pole 1408′ from DER, 746′ right of centerline, 85′ AGL/843′ MSL. Radar reflector 983′ from DER, 32′ left of centerline, 15′ AGL/ 829 MSL. Pipe on building 826′ from DER, 576′ left of centerline, 10′ AGL/825′ AGL. OL on LOC 766′ from DER, on centerline, 7′ AGL/821′ MSL.

RWY 17: Antenna 1272′ from DER, 562′ right of centerline, 57′ AGL/891′ MSL. Pole 409′ from DER, 530′ right of centerline, 29′ AGL/866′ MSL. Wind direction indicator on building 2619′ from DER, 881′ left of centerline, 97′ AGL/918′ MSL. Building 2619′ from DER, 859′ left of centerline, 84′ AGL/905′ MSL. Light 1176′ from DER, 291′ right of centerline, 11′ AGL/875′ MSL. Tree 2619′ from DER, on centerline , 79′ AGL/900′ MSL.

RWY 22: Tree 2906′ from DER, 833′ right of centerline, 94′ AGL/934′ MSL. Hopper 1717′ from DER, 456′ left of centerline, 48′ AGL/888′ MSL.

RWY 30L: Multiple trees beginning 1113′ from DER, 701′ left of centerline , up to 80′ AGL/919′ MSL. Tree 1230′ from DER, 633′ right of centerline, 30′ AGL/877′ MSL. Ground 28′ from DER, 490′ right of centerline, 0′ AGL/844′ MSL.

RWY 30R: Building 1056′ from DER, 198′ left of centerline, 13′ AGL/853′ MSL. Multiple trees beginning 3010′ from DER, 334′ left of centerline, up to 94′ AGL/940′ MSL. Light pole 1849′ from DER, 698′ right of centerline, 17′ AGL/871′ MSL. Fence 1327′ from DER, 667′ right of centerline, 8′ AGL/ 857′ MSL. Tree 3703′ from DER, 350′ right of centerline, 67′ AGL/ 914′ MSL. Rod on pole 3143′ from DER, 47′ right of centerline, 38′ AGL/898′ MSL.

RWY 35: Tree 175′ from DER, 398′ right of centerline, 73′ AGL/883′ MSL. Multiple trees beginning 1989′ from DER, 351′ left of centerline, up to 65′ AGL/902′ MSL. Multiple buildings beginning 5.5 NM from DER, 1787′ left of centerline, up to 811′ AGL/1743′ MSL.

NC-1, 08 APR 2010 to 06 MAY 2010

SKETR THREE ARRIVAL

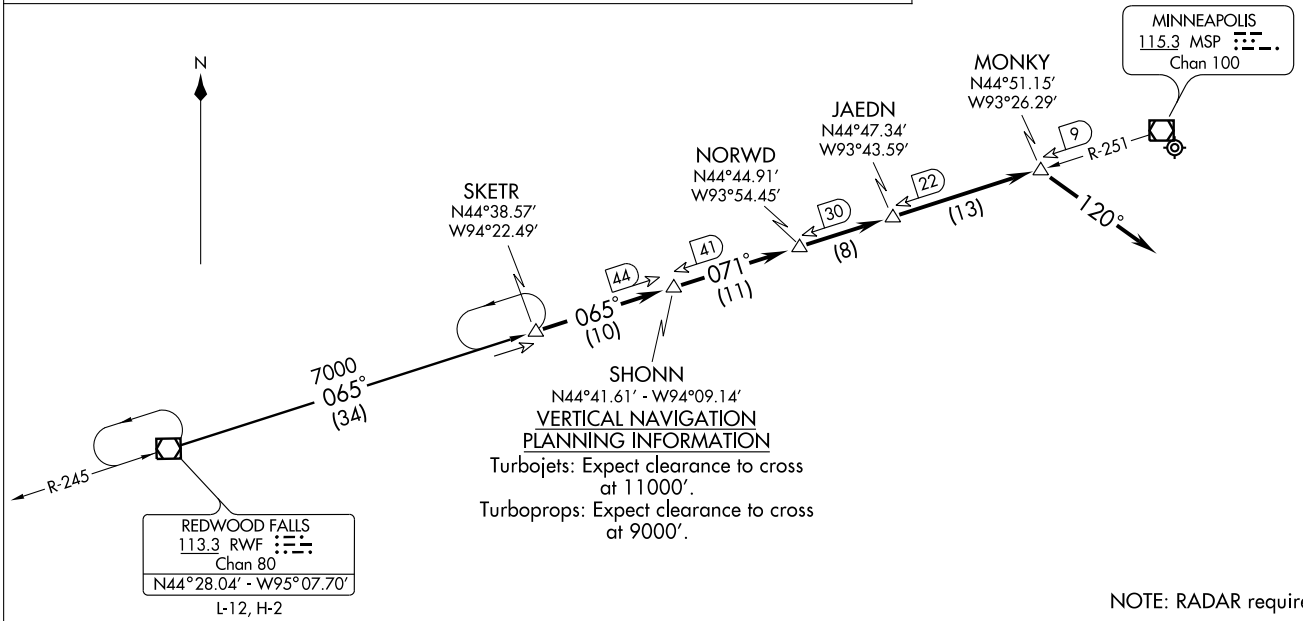
MINNEAPOLIS APP CON
119.3 335.5
ATIS 135.35 239.275

REDWOOD FALLS TRANSITION (RWF.SKETR3): From over RWF VOR/DME via RWF R-065 to SKETR/34 DME. Thence....

....Via the RWF R-065 to SKETR/34 DME, then to SHONN/44 DME, then via MSP R-251 to NORWD/30 DME, then to JAEDN/22 DME, then to MONKY/9 DME. Thence....

LANDING MSP RUNWAYS 30L/R, 35: Via 120° heading for radar vectors to final approach course.

ALL OTHER RUNWAYS: Via radar vectors to final approach course.



NOTE: RADAR required.

NOTE: DME required.

NOTE: Chart not to scale.

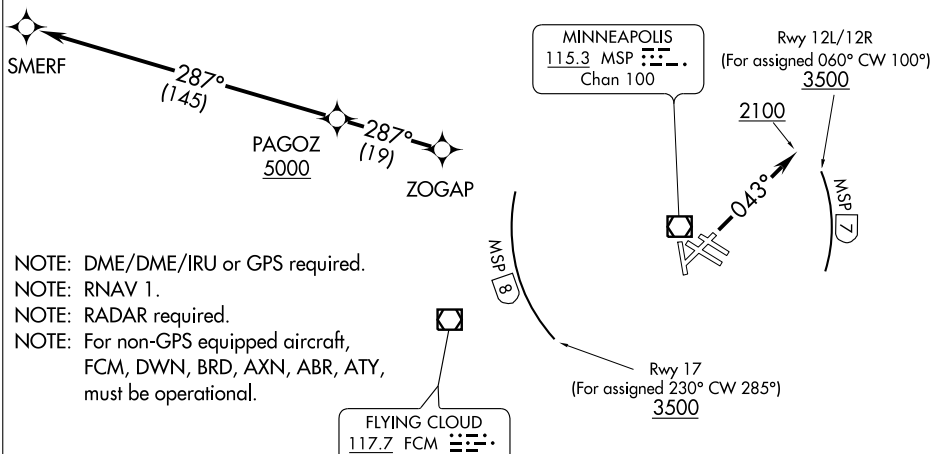
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN
ST-264 (FAA)
MINNEAPOLIS, MINNESOTA

SMERF THREE DEPARTURE (RNAV)

ATIS DEP 120.8
CLNC DEL
133.2
MINNEAPOLIS TOWER
123.95 273.55 (12L-30R)
126.7 273.55 (12R-30L, 4-22)
123.675 273.55 (17-35)
MINNEAPOLIS DEP CON
SOUTH or EAST 124.7 357.4
NORTH or WEST 125.75 357.4

TAKE-OFF MINIMUMS:
Rwys 4, 22, 12L, 12R, 17: Standard.
Rwy 30L: Standard with minimum climb of 210′ per NM to 2100.
Rwy 30R: Standard with minimum climb of 220′ per NM to 2100.
Rwy 35: Standard with minimum climb of 219′ per NM to 2100.

DEPARTURE CROSSING RESTRICTIONS:
Rwy 12L/12R requires an ATC climb gradient of 546′ per NM to 3500.
Rwy 17 requires an ATC climb gradient of 403′ per NM to 3500.



NOTE: DME/DME/IRU or GPS required.
NOTE: RNAV 1.
NOTE: RADAR required.
NOTE: For non-GPS equipped aircraft, FCM, DWN, BRD, AXN, ABR, ATY, must be operational.

NOTE: Chart not to scale.

(NOTES CONTINUED ON FOLLOWING PAGE)

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF RUNWAY 4: Climb heading 043° to 2100. Thence . . . .

TAKE-OFF RUNWAYS 12L/12R: For assigned headings from 060° clockwise to 100°, cross MSP VOR/DME 7 DME Arc at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

TAKE-OFF RUNWAY 17: For assigned headings from 230° clockwise to 285°, cross MSP VOR/DME 8 DME Arc at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

TAKE-OFF RUNWAYS 22, 30L/30R, 35: Climb on assigned heading for radar vectors. Thence . . . .

. . . . expect radar vectors to ZOGAP, then via track 287° to PAGOZ and via track 287° to SMERF. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude. Expect filed altitude/flight level 10 minutes after departure.

TAKE-OFF OBSTACLE NOTES

RWY 4: Multiple trees beginning 800′ from DER, 264′ left of centerline, up to 75′ AGL/921′ MSL.
Rod on building 2528′ from DER, 1175′ left of centerline, 78′ AGL/922′ MSL.
Fence 803′ from DER, 585′ left of centerline, 15′ AGL/860′ MSL.
Antenna on OL building 456′ from DER, 319′ left of centerline, 13′ AGL/850′ MSL.
LT poles 1932′ from DER, 718′ left of centerline, 45′ AGL/885′ MSL.
Stack 4535′ from DER, 481′ left of centerline, 139′ AGL/949′ MSL.

RWY 22: Tree 2906′ from DER, 833′ right of centerline, 94′ AGL/934′ MSL.
Hopper 1717′ from DER, 456′ left of centerline, 48′ AGL/888′ MSL.

RWY 30L: Multiple trees beginning 1113′ from DER, 701′ left of centerline, up to 80′ AGL/919′ MSL.
Tree 1230′ from DER, 633′ right of centerline, 30′ AGL/877′ MSL.
Ground 28′ from DER, 490′ right of centerline, 844′ MSL.

RWY 17: Antenna 1272′ from DER, 562′ right of centerline, 57′ AGL/891′ MSL.
Pole 409′ from DER, 530′ right of centerline, 29′ AGL/866′ MSL.
Wind direction indicator on bldg 2619′ from DER, 881′ left of centerline, 97′ AGL/918′ MSL.
Bldg 2619′ from DER, 859′ left of centerline, 84′ AGL/905′ MSL.
LT 1176′ from DER, 291′ right of centerline, 11′ AGL/875′ MSL.
Tree 2619′ from DER, on centerline, 79′ AGL/900′ MSL.

RWY 30R: Bldg 1056′ from DER, 198′ left of centerline, 13′ AGL/853′ MSL.
Multiple trees beginning 3010′ from DER, 334′ left of centerline, up to 94′ AGL/940′ MSL.
LT pole 1849′ from DER, 698′ right of centerline, 17′ AGL/871′ MSL.
Fence 1327′ from DER, 667′ right of centerline, 8′ AGL/857′ MSL.
Tree 3703′ from DER, 350′ right of centerline, 67′ AGL/914′ MSL.
Rod on pole 3143′ from DER, 47′ right of centerline, 38′ AGL/898′ MSL.

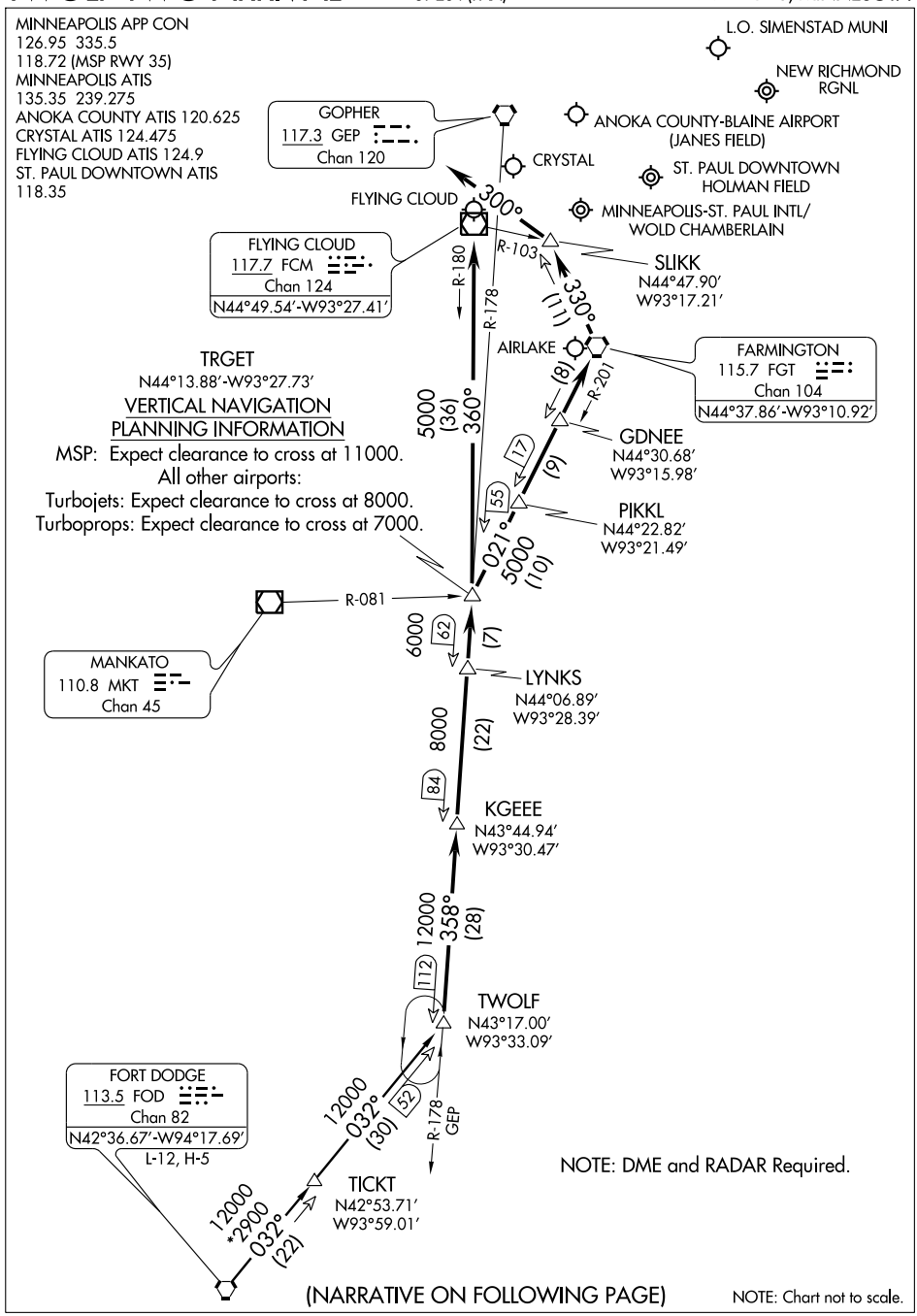
RWY 35: Tree 175′ from DER, 398′ right of centerline, 73′ AGL/883′ MSL.
Multiple trees beginning 1989′ from DER, 351′ left of centerline, up to 65′ AGL/902′ MSL.
Multiple buildings beginning 5.45 NM from DER, 1787′ left of centerline, up to 811′ AGL/1743′ MSL.

RWY 12R: Multiple trees beginning 1477′ from DER, 407′ left of centerline, up to 86′ AGL/851′ MSL.
Multiple trees beginning 1426′ from DER, 124′ right of centerline, up to 111′ AGL/847′ MSL.
LT pole 1408′ from DER, 746′ right of centerline, 85′ AGL/843′ MSL.
Radar reflector 983′ from DER, 32′ left of centerline, 15′ AGL/829′ MSL.
Pipe on bldg, 826′ from DER, 576′ left of centerline, 10′ AGL/825′ MSL.
OL on LOC 766′ from DER, on centerline, 7′ AGL/821′ MSL.

TWOLF TWO ARRIVAL

ST-264 (FAA)

MINNEAPOLIS, MINNESOTA



TWOLF TWO ARRIVAL

ARRIVAL DESCRIPTION

FORT DODGE TRANSITION (FOD.TWOLF2): From over FOD VORTAC via FOD R-032 to TWOLF/FOD 52 DME, Thence . . . .

....From over TWOLF/GEP 112 DME via GEP R-178 to KGEEE/GEP 84 DME, then as depicted to TRGET INT/GEP 55 DME. Thence....

LANDING MSP RWYS 12L/R: From over TRGET INT via FGT R-201 to FGT VORTAC, then via FGT R-330 to SLIKK INT/FGT 11 DME, then via heading 300° for radar vectors to final approach course.

LANDING MSP RWYS 30L/R, 4, 22, 17, 35: From over TRGET INT via FGT R-201 to FGT VORTAC, then via radar vectors to final approach course.

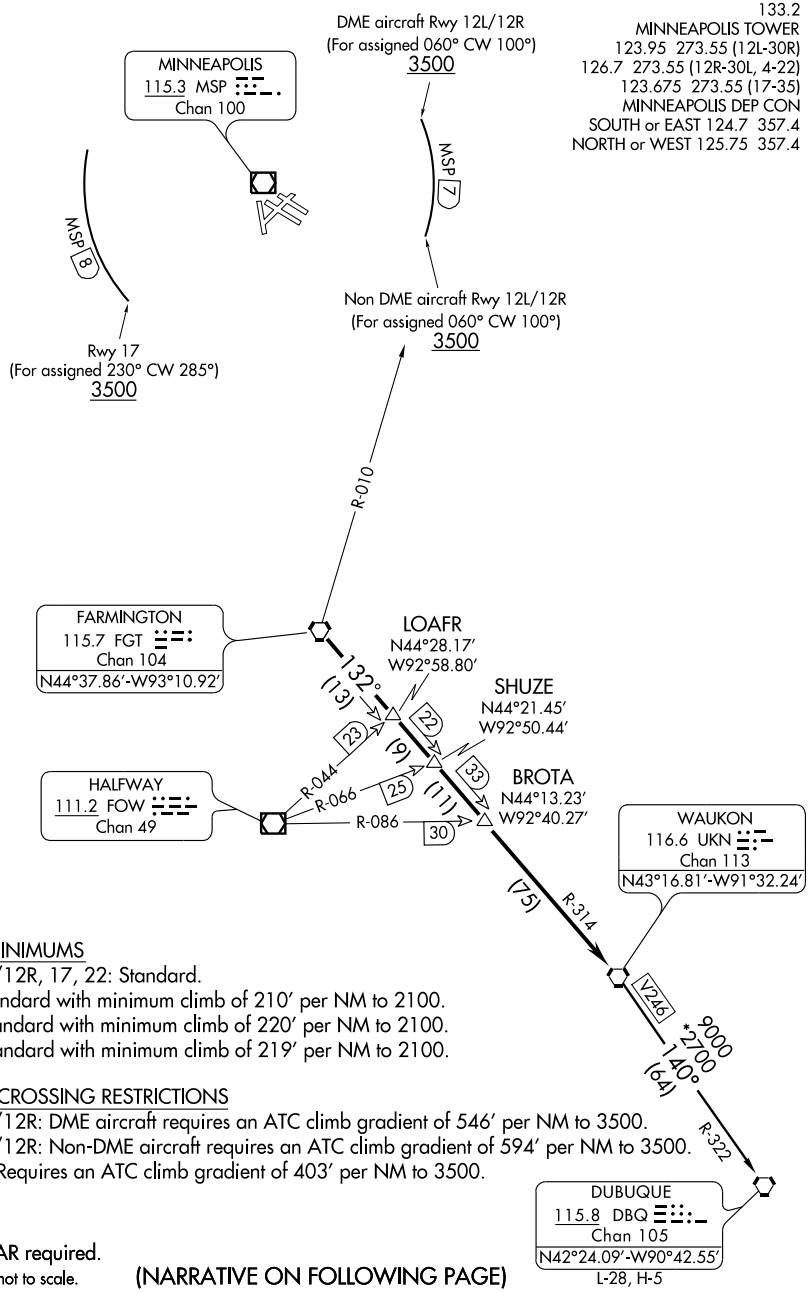
LANDING ALL OTHER AIRPORTS: From over TRGET INT via FCM R-180 to FCM VOR/DME, then expect radar vectors to final approach course.

NC-1. 08 APR 2010 to 06 MAY 2010

WAUKON THREE DEPARTURE

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN(MSP)
SL-264 (FAA)
MINNEAPOLIS, MINNESOTA

ATIS DEP 120.8
CLNC DEL
133.2
MINNEAPOLIS TOWER
123.95 273.55 (12L-30R)
126.7 273.55 (12R-30L, 4-22)
123.675 273.55 (17-35)
MINNEAPOLIS DEP CON
SOUTH or EAST 124.7 357.4
NORTH or WEST 125.75 357.4



TAKE-OFF MINIMUMS

Rwys 4, 12L/12R, 17, 22: Standard.
Rwy 30L: Standard with minimum climb of 210′ per NM to 2100.
Rwy 30R: Standard with minimum climb of 220′ per NM to 2100.
Rwy 35: Standard with minimum climb of 219′ per NM to 2100.

DEPARTURE CROSSING RESTRICTIONS

Runway 12L/12R: DME aircraft requires an ATC climb gradient of 546′ per NM to 3500.
Runway 12L/12R: Non-DME aircraft requires an ATC climb gradient of 594′ per NM to 3500.
Runway 17: Requires an ATC climb gradient of 403′ per NM to 3500.

NOTE: RADAR required.
NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

NC-1, 08 APR 2010 to 06 MAY 2010

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF ALL RUNWAYS: Fly assigned heading for radar vectors to FGT VORTAC then via FGT R-132 and UKN R-314 to UKN VORTAC. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude.

DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES: For assigned headings from 060° clockwise to 100°, cross MSP 7 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

NON DME EQUIPPED AIRCRAFT RWY 12L/12R DEPARTURES: For assigned headings from 060° clockwise to 100°, cross FGT R-010 at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

TAKE-OFF RUNWAY 17 DEPARTURES: For assigned headings 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

TAKE-OFF RUNWAYS 4, 22, 30L/30R, 35: Initially assigned heading. Thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

DUBUQUE TRANSITION (UKN3.DBQ): From over UKN VORTAC via UKN R-140 and DBQ R-322 to DBQ VORTAC.

TAKE-OFF OBSTACLE NOTES

RWY 4: Multiple trees beginning 800′ from DER, 264′ left of centerline, up to 75′ AGL/921′ MSL. Rod on building 2528′ from DER, 1175′ left of centerline, 78′ AGL/922′ MSL. Fence 803′ from DER, 585′ left of centerline, 15′ AGL/860′ MSL. Antenna on OL building 456′ from DER, 319′ left of centerline, 13′ AGL/850′ MSL. Light poles 1932′ from DER, 718′ left of centerline, 45′ AGL/885′ MSL. Stack 4535′ from DER, 481′ left of centerline, 139′ AGL/949′ MSL.

RWY 22: Tree 2906′ from DER, 833′ right of centerline, 94′ AGL/934′ MSL. Hopper 1717′ from DER, 456′ left of centerline, 48′ AGL/888′ MSL.

RWY 17: Antenna 1272′ from DER, 562′ right of centerline, 57′ AGL/891′ MSL. Pole 409′ from DER, 530′ right of centerline, 29′ AGL/866′ MSL. Wind direction indicator on building 2619′ from DER, 881′ left of centerline, 97′ AGL/918′ MSL. Building 2619′ from DER, 859′ left of centerline, 84′ AGL/905′ MSL. Light 1176′ from DER, 291′ right of centerline, 11′ AGL/875′ MSL. Tree 2619′ from DER, on centerline, 79′ AGL/900′ MSL.

RWY 30L: Multiple trees beginning 1113′ from DER, 701′ left of centerline , up to 80′ AGL/919′ MSL. Tree 1230′ from DER, 633′ right of centerline, 30′ AGL/877′ MSL. Ground 28′ from DER, 490′ right of centerline 0′ AGL/844′ MSL.

RWY 30R: Building 1056′ from DER, 198′ left of centerline, 13′ AGL/853′ MSL. Multiple trees beginning 3010′ from DER, 334′ left of centerline, up to 94′ AGL/940′ MSL. Light pole 1849′ from DER, 698′ right of centerline, 17′ AGL/871′ MSL. Fence 1327′ from DER, 667′ right of centerline, 8′ AGL/857′ MSL. Tree 3703′ from DER, 350′ right of centerline, 67′ AGL/914′ MSL. Rod on pole 3143′ from DER, 47′ right of centerline, 38′ AGL/898′ MSL.

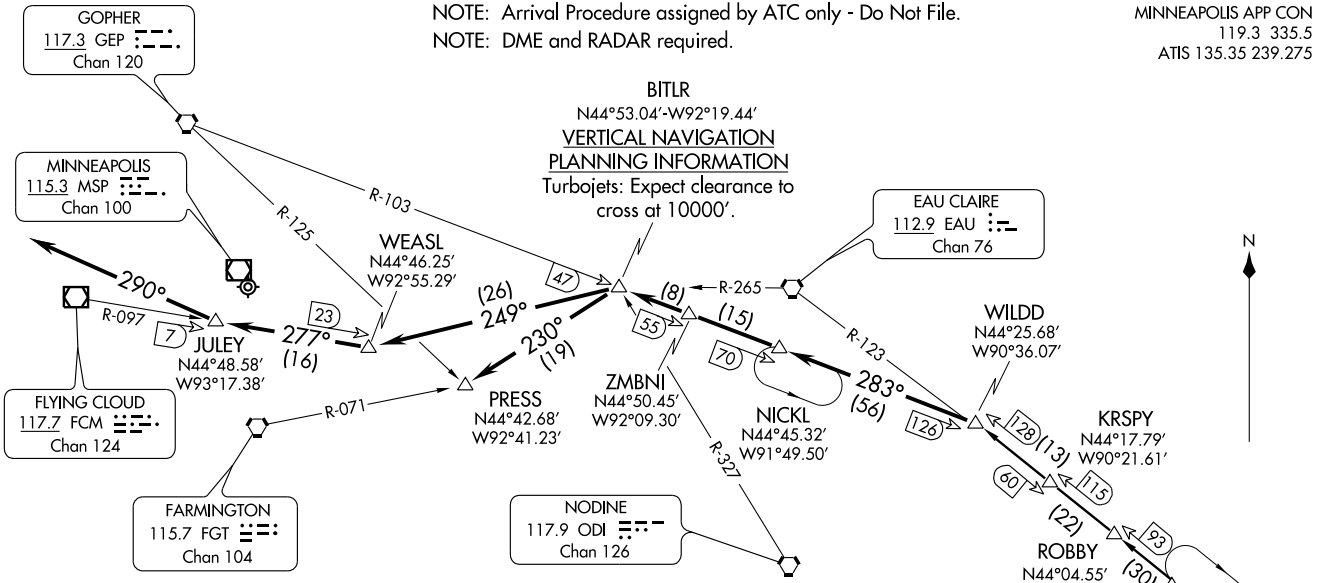
RWY 35: Tree 175′ from DER, 398′ right of centerline, 73′ AGL/883′ MSL. Multiple trees beginning 1989′ from DER, 351′ left of centerline, up to 65′ AGL/902′ MSL. Multiple buildings beginning 5.45 NM from DER, 1787′ left of centerline, up to 811′ AGL/1743′ MSL.

RWY 12R: Multiple trees beginning 1477′ from DER, 407′ left of centerline, up to 86′ AGL/851′ MSL. Multiple trees beginning 1426′ from DER, 124′ right of centerline, up to 111′ AGL/847′ MSL. Light pole 1408′ from DER, 746′ right of centerline, 85′ AGL/843′ MSL. Radar reflector 983′ from DER, 32′ left of centerline, 15′ AGL/829′ MSL. Pipe on building, 826′ from DER, 576′ left of centerline, 10′ AGL/825′ MSL. OL on LOC 766′ from DER, on centerline, 7′ AGL/821′ MSL.

WILDD TWO ARRIVAL

NOTE: Arrival Procedure assigned by ATC only - Do Not File.
NOTE: DME and RADAR required.

MINNEAPOLIS APP CON
119.3 335.5
ATIS 135.35 239.275



BADGER TRANSITION (BAE.WILDD2): From over BAE VORTAC via BAE R-307 to WILDD INT. Thence....
....From over WILDD/BAE 128 DME via GEP R-103 to BITLR/GEP 47 DME. Thence....

LANDING MSP RWYS 30L/30R: PRESS SEGMENT- Via heading 230° to FGT R-071/PRESS INT/FGT 22 DME, then expect radar vectors to final approach course.

LANDING MSP RWYS 12L/12R: WEASL SEGMENT- Via heading 249° to FCM R-097/WEASL INT/ FCM 23 DME, then via FCM R-097 to JULEY/FCM 7 DME, then via heading 290° for radar vectors to final approach course.

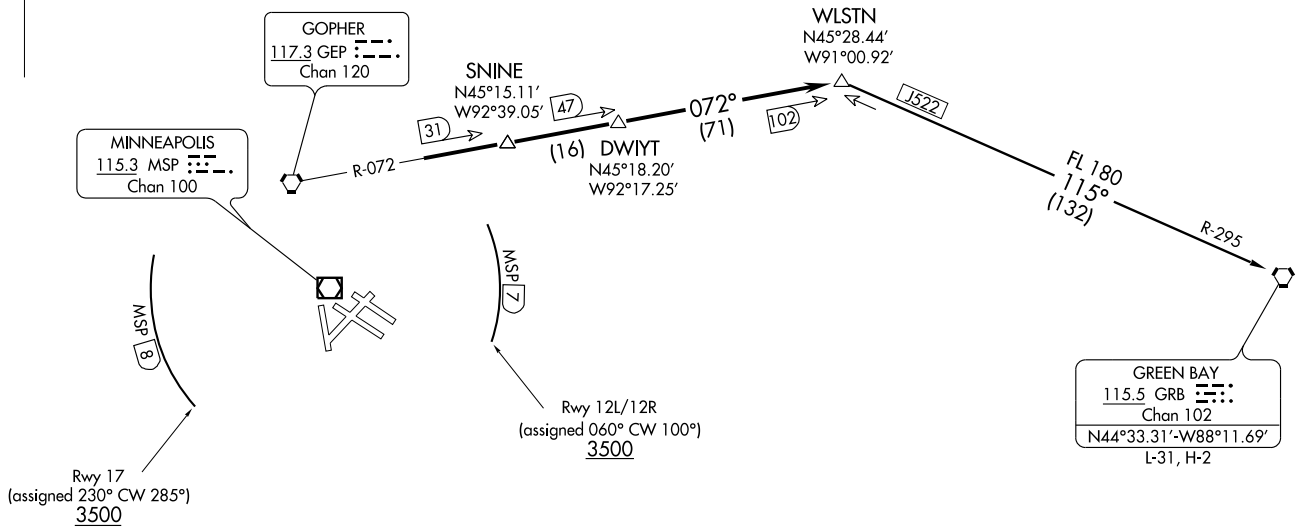
LANDING ALL OTHER MSP RWYS: Expect radar vectors to final approach course.

NOTE: Chart not to scale.

ATIS DEP 120.8
CLNC DEL
133.2
MINNEAPOLIS DEP CON
SOUTH or EAST 124.7 357.4
NORTH or WEST 125.75 357.4

TAKE-OFF MINIMUMS

Rwy 4, 12L, 12R, 17, 22: Standard.
Rwy 30L: Standard with minimum climb of 210′ per NM to 2100.
Rwy 30R: Standard with minimum climb of 220′ per NM to 2100.
Rwy 35: Standard with minimum climb of 219′ per NM to 2100.



DEPARTURE CROSSING RESTRICTIONS

Runway 12L/12R DME aircraft requires an ATC climb gradient of 546′ per NM to 3500.
Runway 17 requires an ATC climb gradient of 403′ per NM to 3500.

NOTE: RADAR and DME required.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF ALL RUNWAYS: Fly assigned heading for radar vectors to GEP R-072 to WLSTN/GEP 102 DME. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude. Thence . . . .

TAKE-OFF RUNWAY 12L/12R DEPARTURES: For assigned headings from 060° clockwise to 100°, cross MSP 7 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

TAKE-OFF RUNWAY 17 DEPARTURES: For assigned headings from 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence . . . .

TAKE-OFF RUNWAYS 4, 22, 30L/30R, 35: Initially assigned heading. Thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

GREEN BAY TRANSITION (WLSTN3.GRB): From over WLSTN via GRB R-295 to GRB VORTAC.

TAKE-OFF OBSTACLE NOTES

RWY 4: Multiple trees beginning 800′ from DER, 264′ left of centerline, up to 75′ AGL/921′ MSL.
Rod on building 2528′ from DER, 1175′ left of centerline, 78′ AGL/922′ MSL.
Fence 803′ from DER, 585′ left of centerline, 15′ AGL/860′ MSL.
Antenna on OL building 456′ from DER, 319′ left of centerline, 13′ AGL/850′ MSL.
Light poles 1932′ from DER, 718′ left of centerline, 45′ AGL/885′ MSL.
Stack 4535′ from DER, 481′ left of centerline, 139′ AGL/949′ MSL.

RWY 22: Tree 2906′ from DER, 833′ right of centerline, 94′ AGL/934′ MSL.
Hopper 1717′ from DER, 456′ left of centerline, 48′ AGL/888′ MSL.

RWY 30L: Multiple trees beginning 1113′ from DER, 701′ left of centerline, up to 80′ AGL/919′ MSL.
Tree 1230′ from DER, 633′ right of centerline, 30′ AGL/877′ MSL.
Ground 28′ from DER, 490′ right of centerline, 0′ AGL/844′ MSL.

RWY 17: Antenna 1272′ from DER, 562′ right of centerline, 57′ AGL/891′ MSL.
Pole 409′ from DER, 530′ right of centerline, 29′ AGL/866′ MSL.
Wind direction indicator on building 2619′ from DER, 881′ left of centerline, 97′ AGL/918′ MSL.
Building 2619′ from DER, 859′ left of centerline, 84′ AGL/905′ MSL.
Light 1176′ from DER, 291′ right of centerline, 11′ AGL/875′ MSL.
Tree 2619′ from DER, on centerline, 79′ AGL/900′ MSL.

RWY 30R: Building 1056′ from DER, 198′ left of centerline, 13′ AGL/853′ MSL.
Multiple trees beginning 3010′ from DER, 334′ left of centerline, up to 94′ AGL/940′ MSL.
Light pole 1849′ from DER, 698′ right of centerline, 17′ AGL/871′ MSL.
Fence 1327′ from DER, 667′ right of centerline, 8′ AGL/ 857′ MSL.
Tree 3703′ from DER, 350′ right of centerline, 67′ AGL/ 914′ MSL.
Rod on pole 3143′ from DER, 47′ right of centerline, 38′ AGL/898′ MSL.

RWY 35: Tree 175′ from DER, 398′ right of centerline, 73′ AGL/883′ MSL.
Multiple trees beginning 1989′ from DER, 351′ left of centerline, up to 65′ AGL/902′ MSL.
Multiple buildings beginning 5.5 NM from DER, 1787′ left of centerline, up to 811′ AGL/1743′ MSL.

RWY 12R: Multiple trees beginning 1477′ from DER, 407′ left of centerline, up to 86′ AGL/851′ MSL.
Multiple trees beginning 1426′ from DER, 124′ right of centerline, up to 111′AGL/847′ MSL.
Light pole 1408′ from DER, 746′ right of centerline, 85′ AGL/843′ MSL.
Radar reflector 983′ from DER, 32′ left of centerline, 15′ AGL/829′ MSL.
Pipe on building 826′ from DER, 576′ left of centerline, 10′ AGL/825′ MSL.
OL on LOC 766′ from DER, on centerline, 7′ AGL/821′ MSL.

ZMBRO THREE DEPARTURE

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)
SL-264 (FAA)
MINNEAPOLIS, MINNESOTA

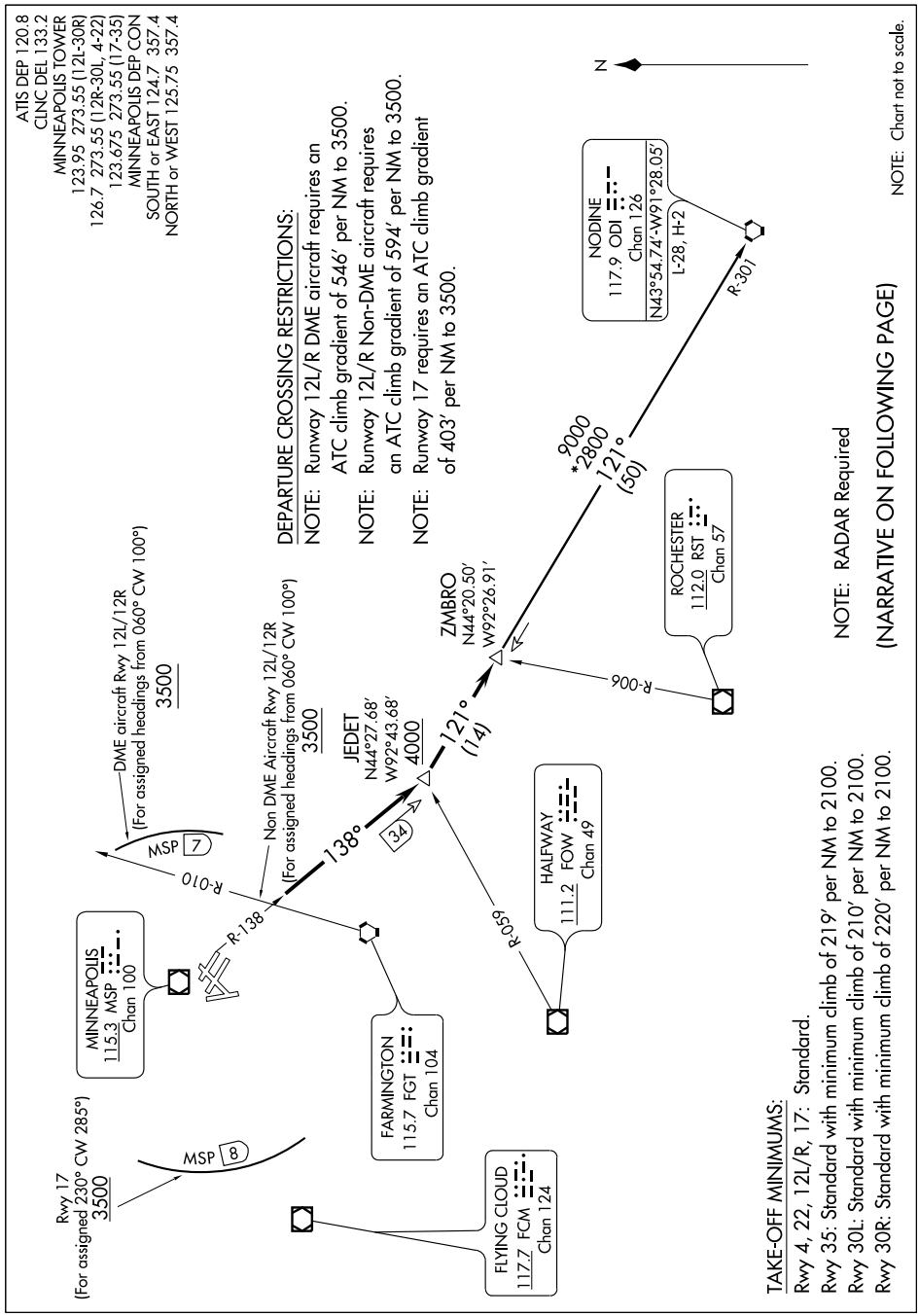
ATIS DEP 120.8
CLNC DEL 133.2
MINNEAPOLIS TOWER
123.95 273.55 (12L-30R)
126.7 273.55 (12R-30L, 4-22)
123.675 273.55 (17-35)
MINNEAPOLIS DEP CON
SOUTH or EAST 124.7 357.4
NORTH or WEST 125.75 357.4

DEPARTURE CROSSING RESTRICTIONS:

NOTE: Runway 12L/R DME aircraft requires an ATC climb gradient of 546′ per NM to 3500.

NOTE: Runway 12L/R Non-DME aircraft requires an ATC climb gradient of 594′ per NM to 3500.

NOTE: Runway 17 requires an ATC climb gradient of 403′ per NM to 3500.



NOTE: Chart not to scale.

NOTE: RADAR Required

(NARRATIVE ON FOLLOWING PAGE)

TAKE-OFF MINIMUMS:

Rwy 4, 22, 12L/R, 17: Standard.

Rwy 35: Standard with minimum climb of 219′ per NM to 2100.

Rwy 30L: Standard with minimum climb of 210′ per NM to 2100.

Rwy 30R: Standard with minimum climb of 220′ per NM to 2100.

DEPARTURE ROUTE DESCRIPTION

TAKE-OFF ALL RUNWAYS: Fly assigned heading for radar vectors to MSP R-138 to JEDET INT/ MSP 34 DME, at or above 4000; then via ODI R-301 to ZMBRO INT/ODI 50 DME. Turbojet aircraft maintain 7000 or lower assigned altitude, all other aircraft maintain 5000 or lower assigned altitude, Thence . . . .

DME EQUIPPED AIRCRAFT RWY 12L/R DEPARTURES: For assigned heading 060° clockwise to 100°, cross MSP 7 DME at or above 3500, maintain assigned altitude. If unable to comply advise ATC as soon as possible prior to departure. Thence. . . .

TAKE-OFF RWY 17 DEPARTURES: For assigned heading 230° clockwise to 285° cross MSP 8 DME at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

NON-DME EQUIPPED AIRCRAFT RWY 12L/R DEPARTURES: For assigned heading 060° clockwise to 100°, cross FGT R-010 at or above 3500, maintain assigned altitude. If unable to comply, advise ATC as soon as possible prior to departure. Thence. . . .

TAKE-OFF RWYS 4, 22, 30L/R, 35: Initially assigned heading, Thence. . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

NODINE TRANSITION (ZMBRO3.ODI): From over ZMBRO INT via ODI R-301 to ODI VORTAC.

TAKE-OFF OBSTACLE NOTES:

RWY 4: Multiple trees beginning 800′ from DER, 264′ left of centerline, up to 75′ AGL/921′ MSL. Rod on building 2528′ from DER, 1175′ left of centerline, 78′ AGL/922′ MSL. Fence 803′ from DER, 585′ left of centerline, 15′ AGL/860′ MSL. Antenna on OL building 456′ from DER, 319′ left of centerline, 13′ AGL/850′ MSL. Light poles 1932′ from DER, 718′ left of centerline, 45′ AGL/885′ MSL. Stack 4535′ from DER, 481′ left of centerline, 139′ AGL/949′ MSL.

RWY 12R: Multiple trees beginning 1477′ from DER, 407′ left of centerline, up to 86′ AGL/851′ MSL. Multiple trees beginning 1426′ from DER, 124′ right of centerline, up to 111′AGL/847′ MSL. Light pole 1408′ from DER, 746′ right of centerline, 85′ AGL/843′ MSL. Radar reflector 983′ from DER, 32′ left of centerline, 15′ AGL/829′ MSL. Pipe on building 826′ from DER, 576′ left of centerline, 10′ AGL/825′ AGL. OL on LOC 766′ from DER, on centerline, 7′ AGL/821′ MSL.

RWY 17: Antenna 1272′ from DER, 562′ right of centerline, 57′ AGL/891′ MSL. Pole 409′ from DER, 530′ right of centerline, 29′ AGL/866′ MSL. Wind direction indicator on building 2619′ from DER, 881′ left of centerline, 97′ AGL/918′ MSL. Building 2619′ from DER, 859′ left of centerline, 84′ AGL/905′ MSL. Light 1176′ from DER, 291′ right of centerline, 11′ AGL/875′ MSL. Tree 2619′ from DER, on centerline , 79′ AGL/900′ MSL.

RWY 22: Tree 2906′ from DER, 833′ right of centerline, 94′ AGL/934′ MSL. Hopper 1717′ from DER, 456′ left of centerline, 48′ AGL/888′ MSL.

RWY 30L: Multiple trees beginning 1113′ from DER, 701′ left of centerline , up to 80′ AGL/919′ MSL. Tree 1230′ from DER, 633′ right of centerline, 30′ AGL/877′ MSL. Ground 28′ from DER, 490′ right of centerline, 0′ AGL/844′ MSL.

RWY 30R: Building 1056′ from DER, 198′ left of centerline, 13′ AGL/853′ MSL. Multiple trees beginning 3010′ from DER, 334′ left of centerline, up to 94′ AGL/940′ MSL. Light pole 1849′ from DER, 698′ right of centerline, 17′ AGL/871′ MSL. Fence 1327′ from DER, 667′ right of centerline, 8′ AGL/ 857′ MSL. Tree 3703′ from DER, 350′ right of centerline, 67′ AGL/ 914′ MSL. Rod on pole 3143′ from DER, 47′ right of centerline, 38′ AGL/898′ MSL.

RWY 35: Tree 175′ from DER, 398′ right of centerline, 73′ AGL/883′ MSL. Multiple trees beginning 1989′ from DER, 351′ left of centerline, up to 65′ AGL/902′ MSL. Multiple buildings beginning 5.5 NM from DER, 1787′ left of centerline, up to 811′ AGL/1743′ MSL.

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME MVE	APP CRS	Rwy ldg	4000
111.6	128°	TDZE	1034
Chan 53		Apt Elev	1034

VOR or GPS RWY 14

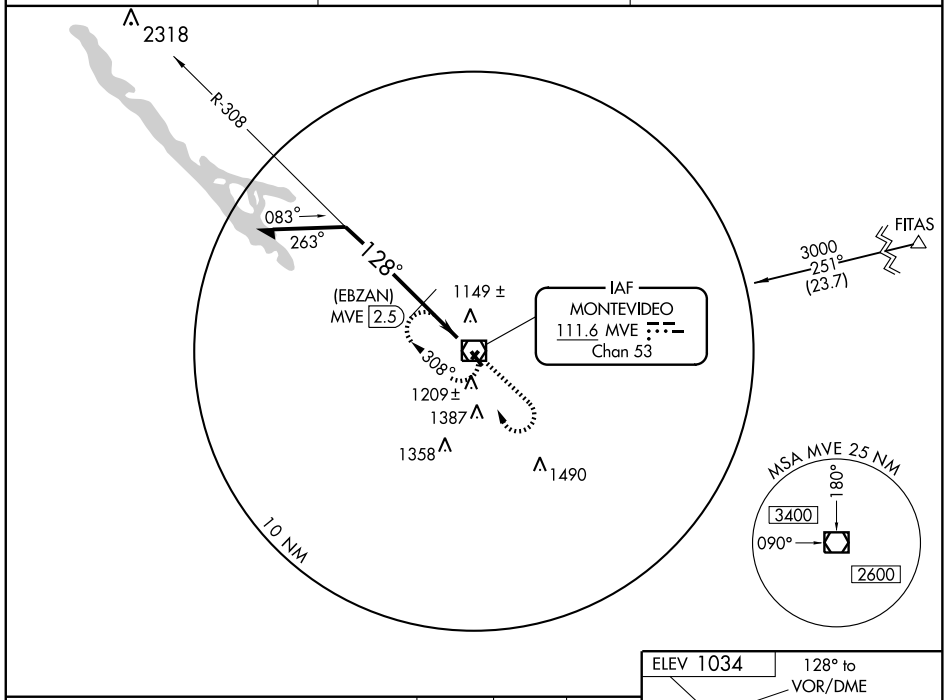
MONTEVIDEO-CHIPPEWA COUNTY (MVE)

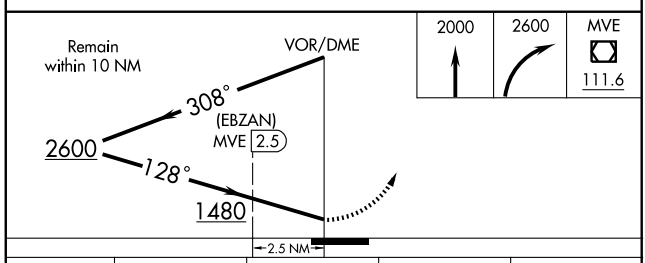
T

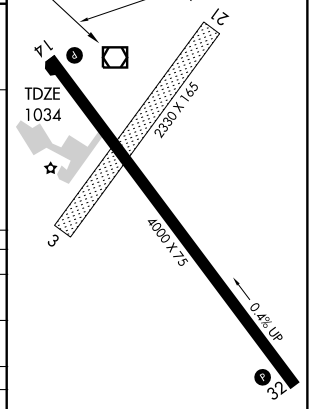
NA

MISSED APPROACH: Climb to 2000 then climbing right turn to 2600 direct MVE VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
111.6	125.5 323.1	122.8 (CTAF) L







REIL Rwys 14 and 32 L
MIRL Rwy 14-32 L

CATEGORY	A	B	C	D
S-14	1480-1 446 (500-1)		1480-1¼ 446 (500-1¼)	1480-1½ 446 (500-1½)
CIRCLING	1520-1 486 (500-1)		1520-1½ 486 (500-1½)	1700-2 666 (700-2)
DME MINIMUMS				
S-14	1400-1 366 (400-1)			1400-1¼ 366 (400-1¼)
CIRCLING	1520-1 486 (500-1)		1520-1½ 486 (500-1½)	1700-2 666 (700-2)

NC-1. 08 APR 2010 to 06 MAY 2010

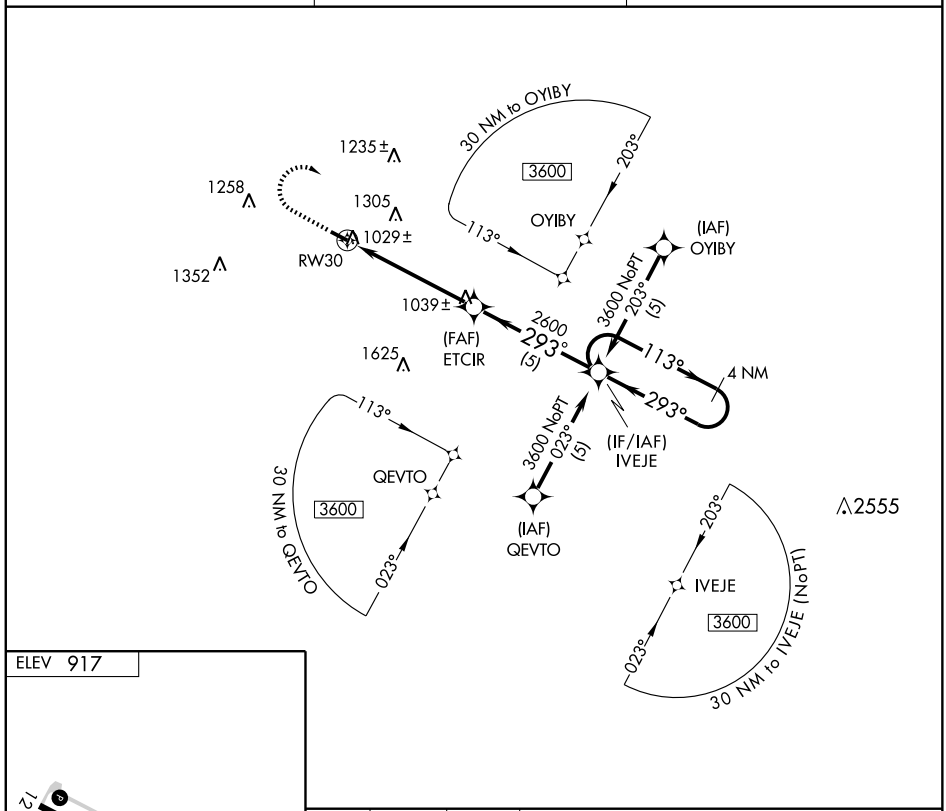
APP CRS	Rwy ldg	4000
293°	TDZE	917
	Apt Elev	917

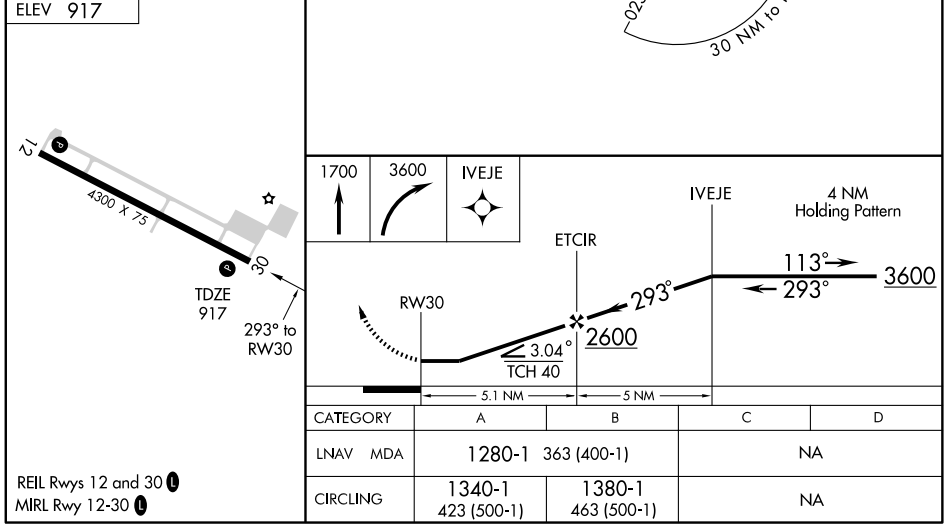
RNAV (GPS) RWY 30
MOORHEAD MUNI (JKJ)

NA
GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 1700 then climbing right turn to 3600 direct IVEJE WP and hold.

AWOS-3	FARGO APP CON ★	UNICOM
120.0	120.4 377.15	123.0 (CTAF) L





CATEGORY	A	B	C	D
LNAV MDA	1280-1 363 (400-1)		NA	
CIRCLING	1340-1 423 (500-1)	1380-1 463 (500-1)	NA	

REIL Rwys 12 and 30 L
MIRL Rwy 12-30 L

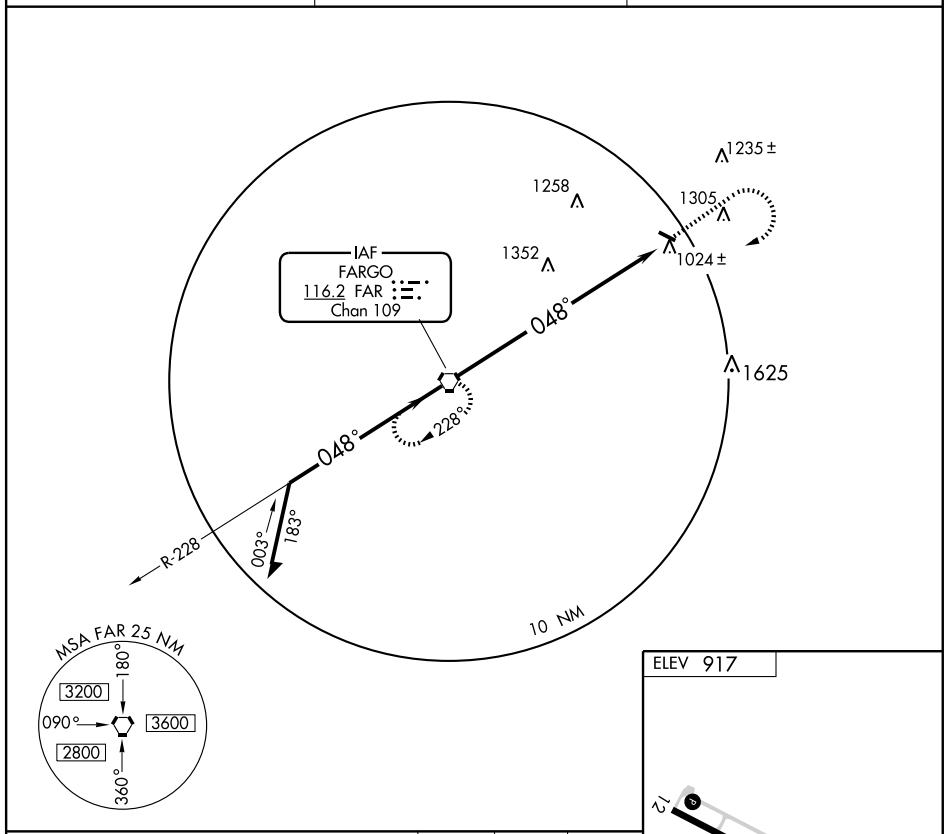
NC-1. 08 APR 2010 to 06 MAY 2010

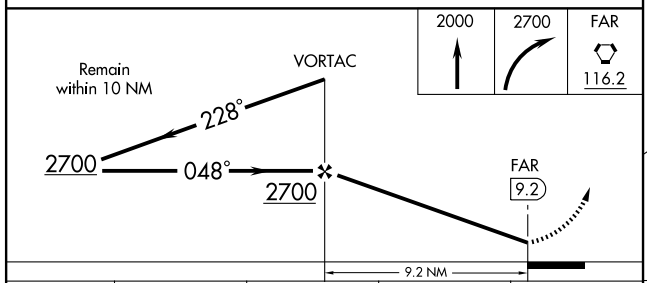
VORTAC FAR	APP CRS	Rwy ldg	N/A
116.2	048°	TDZE	N/A
Chan 109		Apt Elev	917

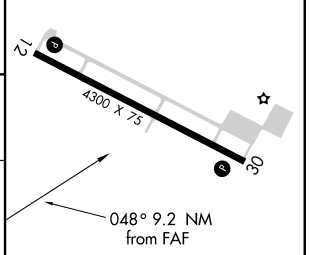
VOR-A
MOORHEAD MUNI (JKJ)

MISSED APPROACH: Climb to 2000, then climbing right turn to 2700 direct FAR VORTAC and hold.

AWOS-3	FARGO APP CON ★	UNICOM
120.0	120.4 377.15	123.0 (CTAF) L







REIL Rwys 12 and 30 L
MIRL Rwy 12-30 L

CATEGORY	A	B	C	D
CIRCLING	1580-1 663 (700-1)		NA	

FAF to MAP 9.2 NM					
Knots	60	90	120	150	180
Min:Sec	9:12	6:08	4:36	3:41	3:04

NC-1. 08 APR 2010 to 06 MAY 2010

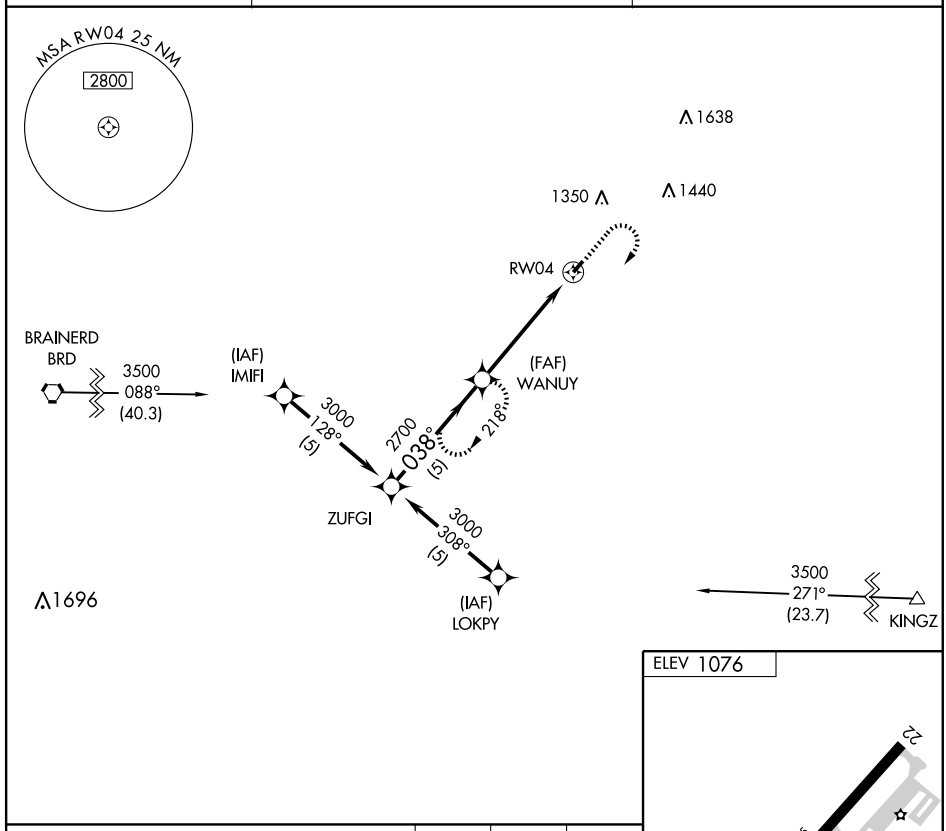
APP CRS	Rwy ldg	3200
038°	TDZE	1076
	Apt Elev	1076

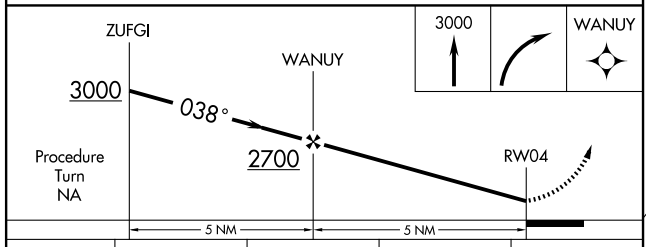
GPS RWY 4
MOOSE LAKE CARLTON COUNTY (MZH)

NA

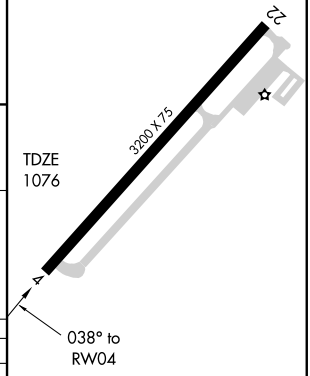
MISSED APPROACH: Climb to 3000 then right turn direct WANUY WP and hold.

AWOS-3	DULUTH APP CON ★	CTAF
362	125.45 255.9	122.9 L





CATEGORY	A	B	C	D
S-4	1540-1 464 (500-1)		NA	
CIRCLING	1660-1 584 (600-1)		NA	



REIL Rwys 4 and 22 L
MIRL Rwy 4-22 L

NC-1. 08 APR 2010 to 06 MAY 2010

NDB MZH	APP CRS	Rwy ldg	3200
362	041°	TDZE	1076
		Apt Elev	1076

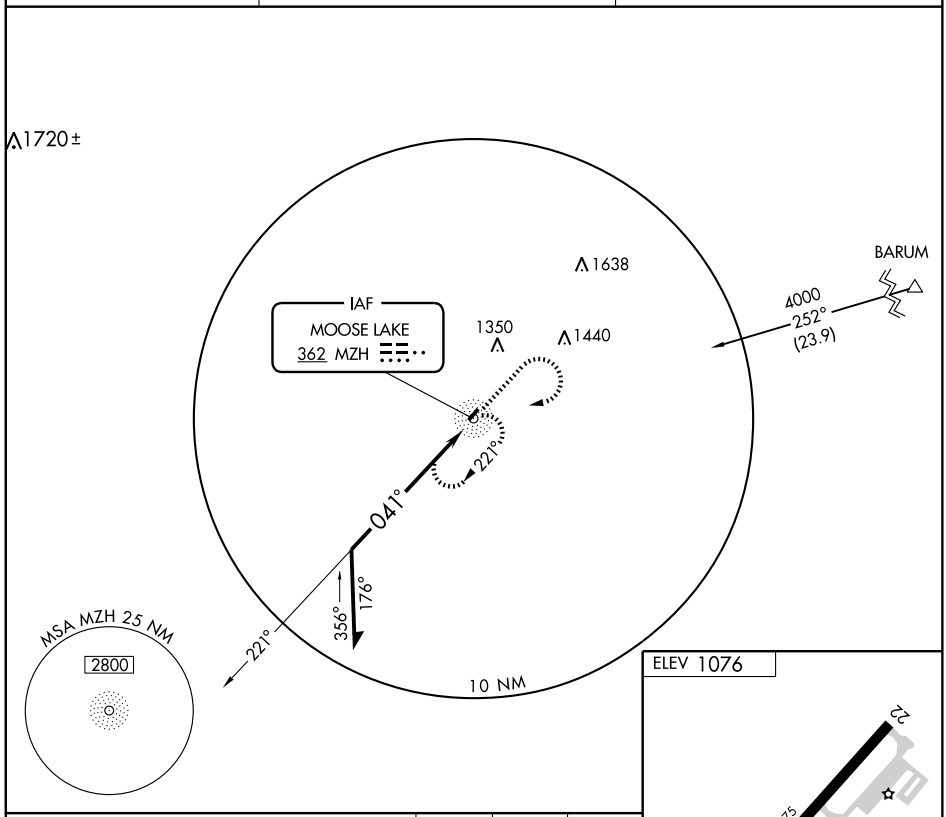
NDB RWY 4

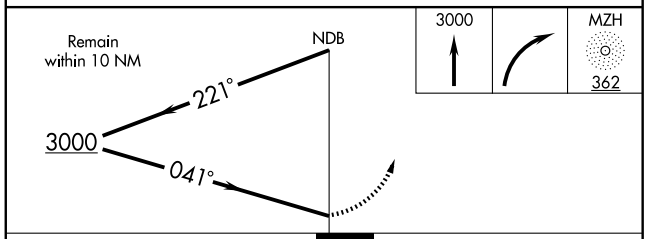
MOOSE LAKE CARLTON COUNTY (MZH)

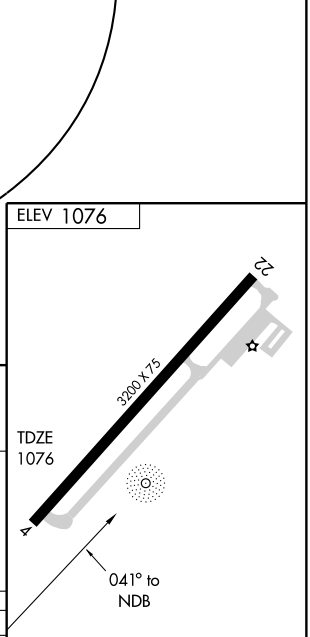
NA

MISSED APPROACH: Climb to 3000, then right turn direct MZH NDB and hold.

AWOS-3	DULUTH APP CON *	CTAF
362	125.45 255.9	122.9 L







CATEGORY	A	B	C	D
S-4	1800-1	724 (800-1)	NA	
CIRCLING	1800-1	724 (800-1)	NA	

REIL Rwys 4 and 22 L
MIRL Rwy 4-22 L

NC-1. 08 APR 2010 to 06 MAY 2010

NDB JMR	APP CRS	Rwy ldg	3998
327	355°	TDZE	1008
		Apt Elev	1012

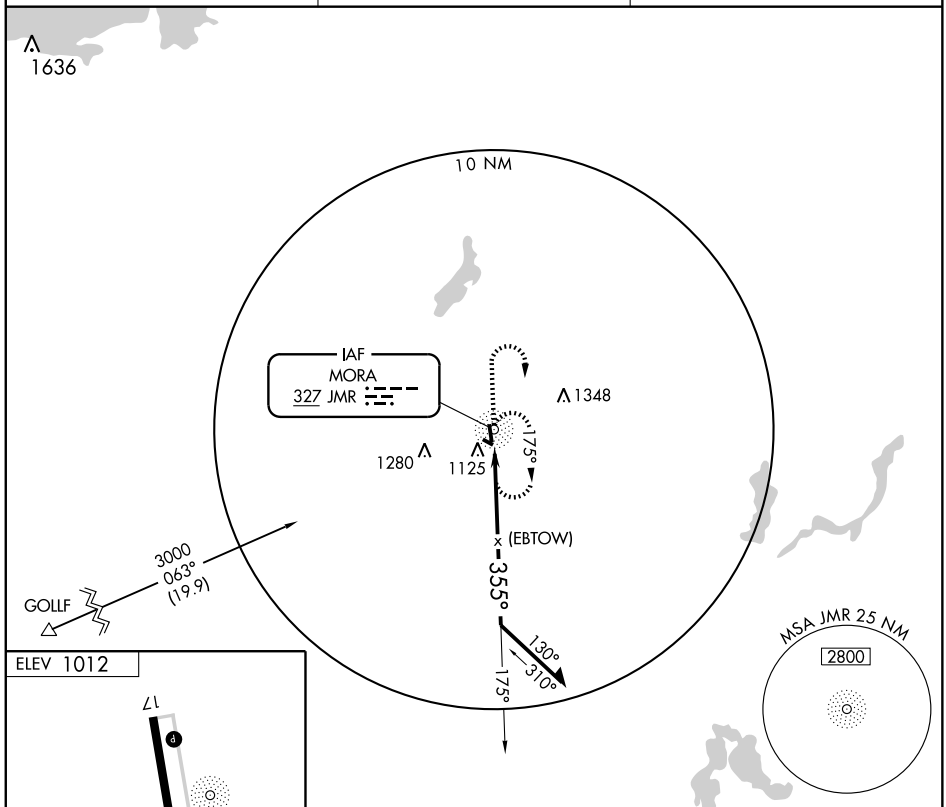
NDB or GPS RWY 35

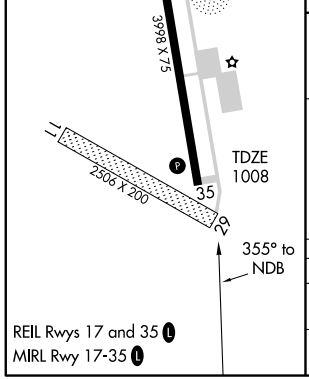
MORA MUNI (JMR)

NA

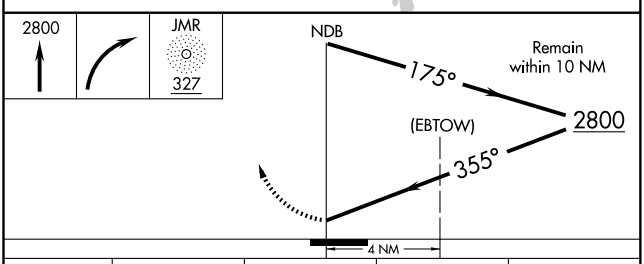
MISSED APPROACH: Climb to 2800 then right turn direct JMR NDB and hold.

AWOS-3	MINNEAPOLIS CENTER	CTAF
327	121.05 397.9	122.8 L





REIL Rwys 17 and 35 L
MIRL Rwy 17-35 L



CATEGORY	A	B	C	D
S-35	1500-1 492 (500-1)		1500-1¼ 492 (500-1¼)	1500-1½ 492 (500-1½)
CIRCLING	1500-1 488 (500-1)		1500-1½ 488 (500-1½)	1580-2 568 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	4000
139°	TDZE	1132
	Apt Elev	1138

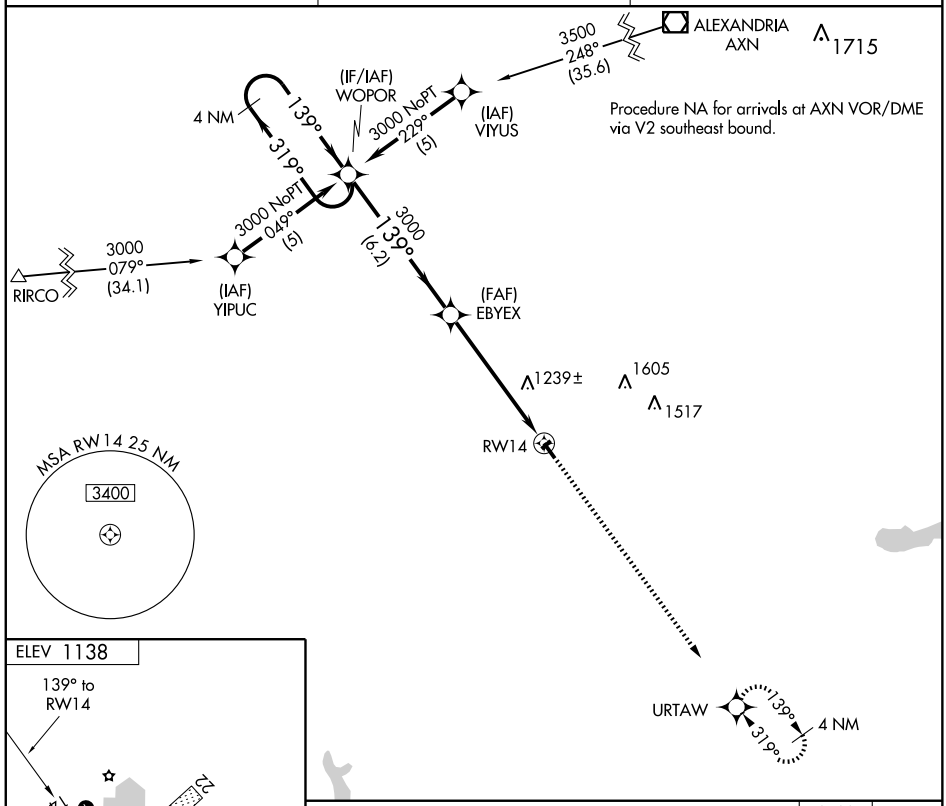
RNAV (GPS) RWY 14

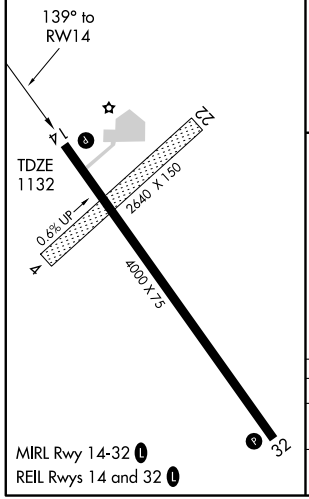
MORRIS MUNI-CHARLIE SCHMIDT FIELD (MOX)

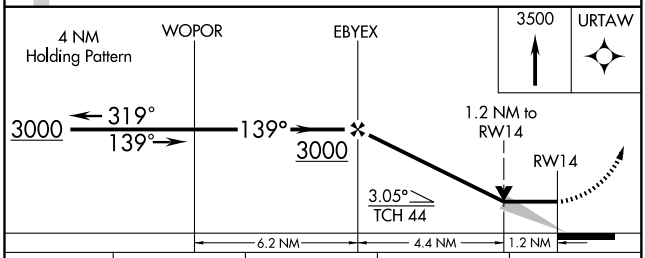
DME/DME RNP-0.3 NA.
When local altimeter setting not received, use Benson altimeter setting and increase all MDA 60 feet.
VDP NA when using Benson altimeter setting.

MISSED APPROACH: Climb to 3500 direct URTAW and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
109.6	126.1 269.2	122.8 (CTAF) L







CATEGORY	A	B	C	D
LNAV MDA	1560-1 428 (500-1)		1560-1¼ 428 (500-1¼)	NA
CIRCLING	1560-1 422 (500-1)	1600-1 462 (500-1)	1600-1½ 462 (500-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	4000
319°	TDZE	1132
	Apt Elev	1138

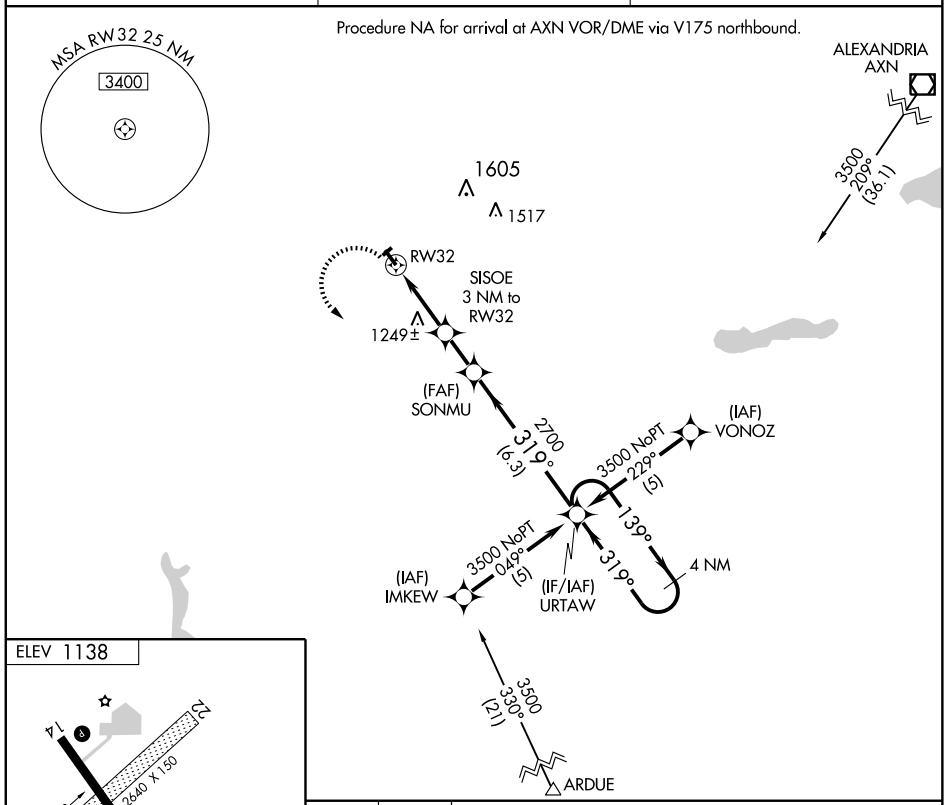
RNAV (GPS) RWY 32

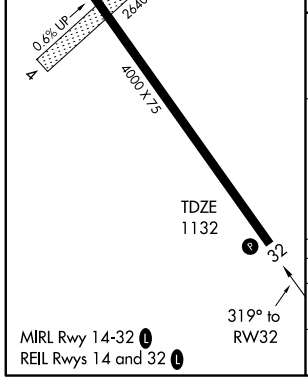
MORRIS MUNI-CHARLIE SCHMIDT FIELD (MOX)

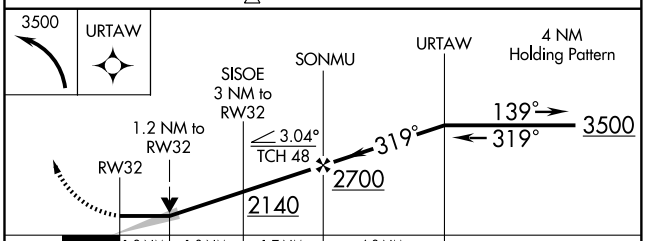
DME/DME RNP-0.3 NA.
VDP NA when using Benson altimeter setting.
When local altimeter setting not received, use Benson altimeter setting and increase all MDAs 60 feet.

MISSED APPROACH: Climbing left turn to 3500 direct URTAW and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
109.6	126.1 269.2	122.8 (CTAF) L







CATEGORY	A	B	C	D
LNAV MDA	1540-1 408 (500-1)		1540-1¼ 408 (500-1¼)	NA
CIRCLING	1560-1 422 (500-1)	1600-1 462 (500-1)	1600-1½ 462 (500-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME MOX	APP CRS	Rwy ldg	4000
109.6	144°	TDZE	1132
Chan 33		Apt Elev	1138

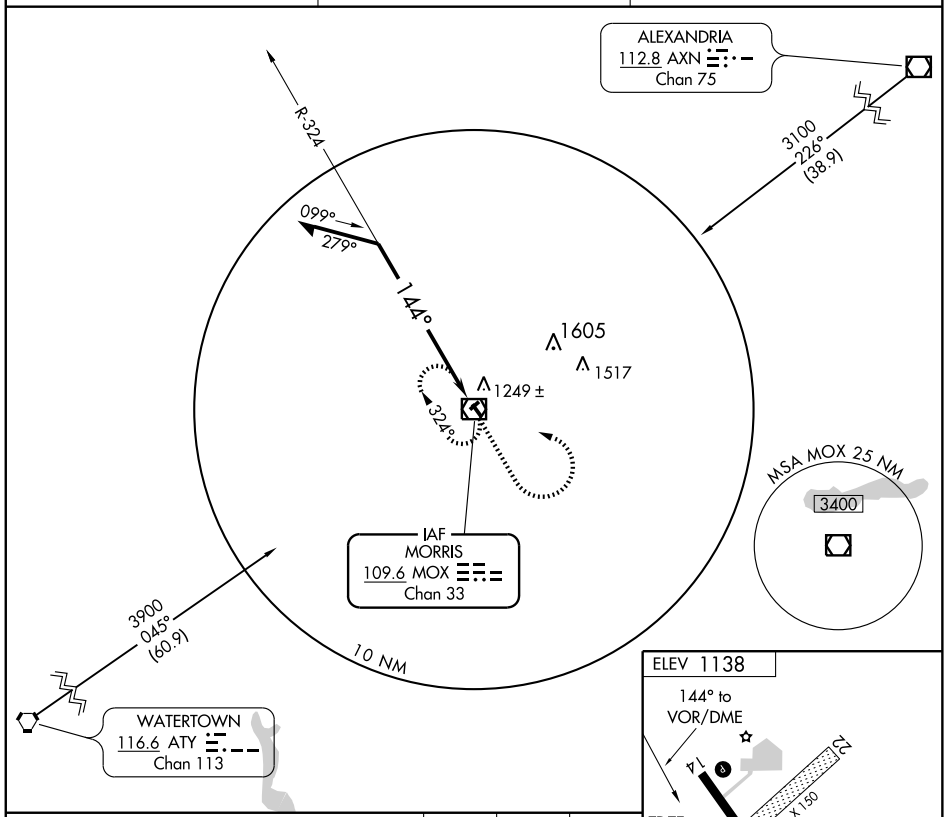
VOR RWY 14

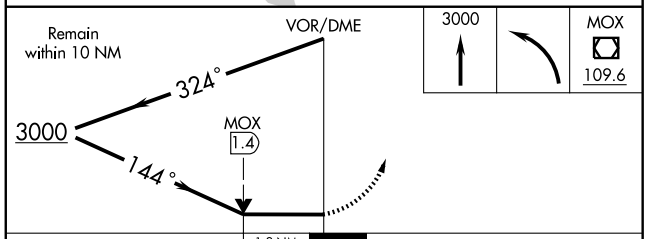
MORRIS MUNI-CHARLIE SCHMIDT FIELD (MOX)

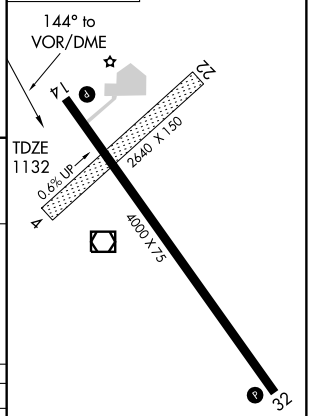
When local altimeter setting not received, use Benson altimeter setting and increase all MDA 60 feet.
VDP NA when using Benson altimeter setting.

MISSED APPROACH: Climb to 3000 then left turn direct MOX VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
109.6	126.1 269.2	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-14	1560-1 428 (500-1)		1560-1¼ 428 (500-1¼)	NA
CIRCLING	1560-1 422 (500-1)	1600-1 462 (500-1)	1600-1½ 462 (500-1½)	NA

MIRL Rwy 14-32 L
REIL Rwys 14 and 32 L

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME MOX	APP CRS	Rwy ldg	4000
109.6	315°	TDZE	1132
Chan 33		Apt Elev	1138

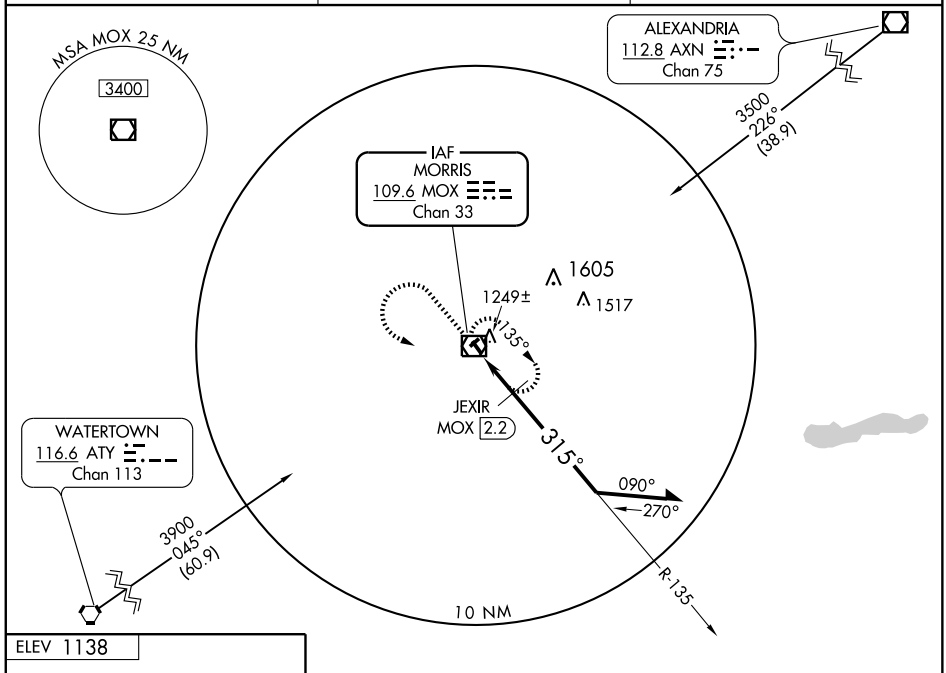
VOR RWY 32

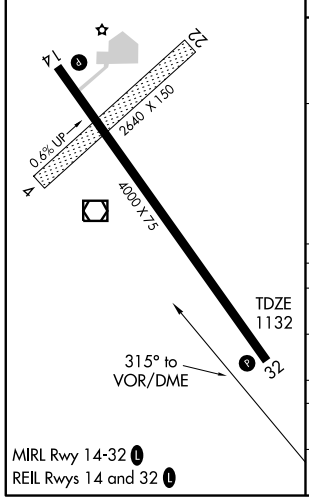
MORRIS MUNI-CHARLIE SCHMIDT FIELD (MOX)

VDP NA when using Benson altimeter setting.
NA When local altimeter setting not received, use Benson altimeter setting and increase all MDAs 60 feet, and Cat. C visibility ¼ mile, JEXIR FIX MINIMUMS S-32 Cat. C visibility ¼ mile.

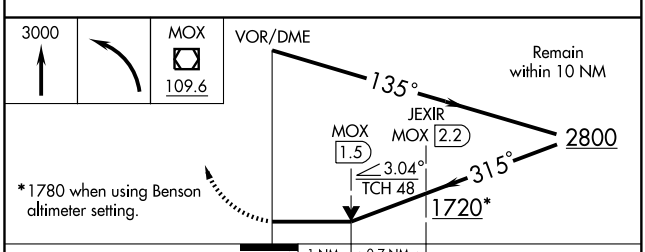
MISSED APPROACH: Climb to 3000 then left turn direct MOX VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
109.6	126.1 269.2	122.8 (CTAF) L





MIRL Rwy 14-32 L
REIL Rwys 14 and 32 L



CATEGORY	A	B	C	D
S-32	1720-1 588 (600-1)		1720-1½ 588 (600-1½)	NA
CIRCLING	1720-1 582 (600-1)		1720-1½ 582 (600-1½)	NA
JEXIR FIX MINIMUMS				
S-32	1500-1 368 (400-1)			NA
CIRCLING	1560-1 422 (500-1)	1600-1 462 (500-1)	1600-1½ 462 (500-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

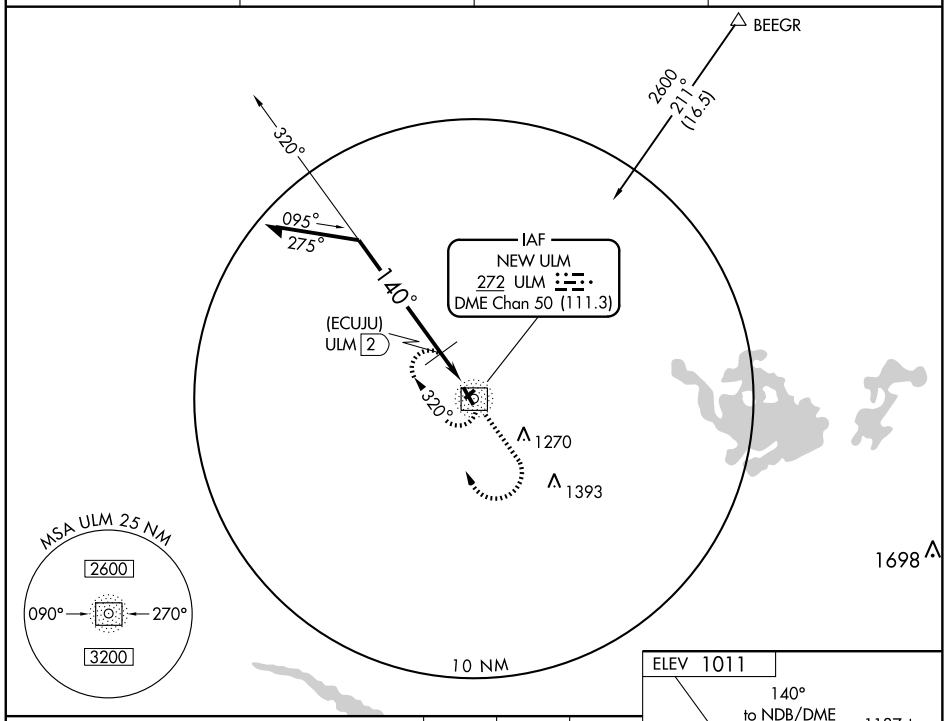
NDB/DME ULM 272 Chan 50 (111.3)	APP CRS 140°	Rwy ldg 4401 TDZE 1005 Apt Elev 1011

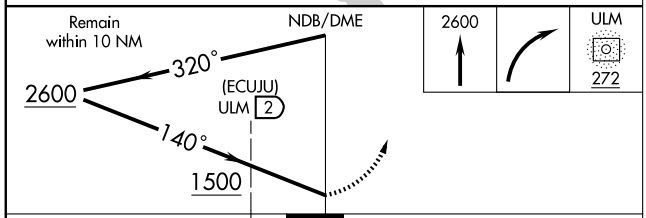
NDB or GPS RWY 15
NEW ULM MUNI (ULM)

NA

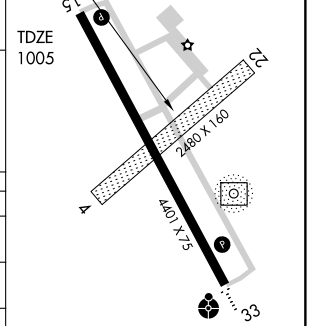
MISSED APPROACH: Climb to 2600 then right turn direct ULM NDB/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
118.325	127.1 290.2	121.725	122.8 (CTAF) L





CATEGORY	A	B	C	D
S-15	1500-1	495 (500-1)	1500-1¼ 495 (500-1¼)	1500-1½ 495 (500-1½)
CIRCLING	1500-1	489 (500-1)	1500-1½ 489 (500-1½)	1740-2¼ 729 (800-2¼)
DME MINIMUMS				
S-15	1440-1	435 (500-1)	1440-1¼ 435 (500-1¼)	1440-1½ 435 (500-1½)
CIRCLING	1440-1 429 (500-1)	1480-1 469 (500-1)	1480-1½ 469 (500-1½)	1740-2¼ 729 (800-2¼)



REIL Rwys 15 and 33 L
MIRL Rwy 15-33 L

NC-1. 08 APR 2010 to 06 MAY 2010

NDB/DME ULM	APP CRS	Rwy ldg	4401
272	354°	TDZE	1011
Chan 50 (111.3)		Apt Elev	1011

NDB or GPS RWY 33

NEW ULM MUNI (ULM)

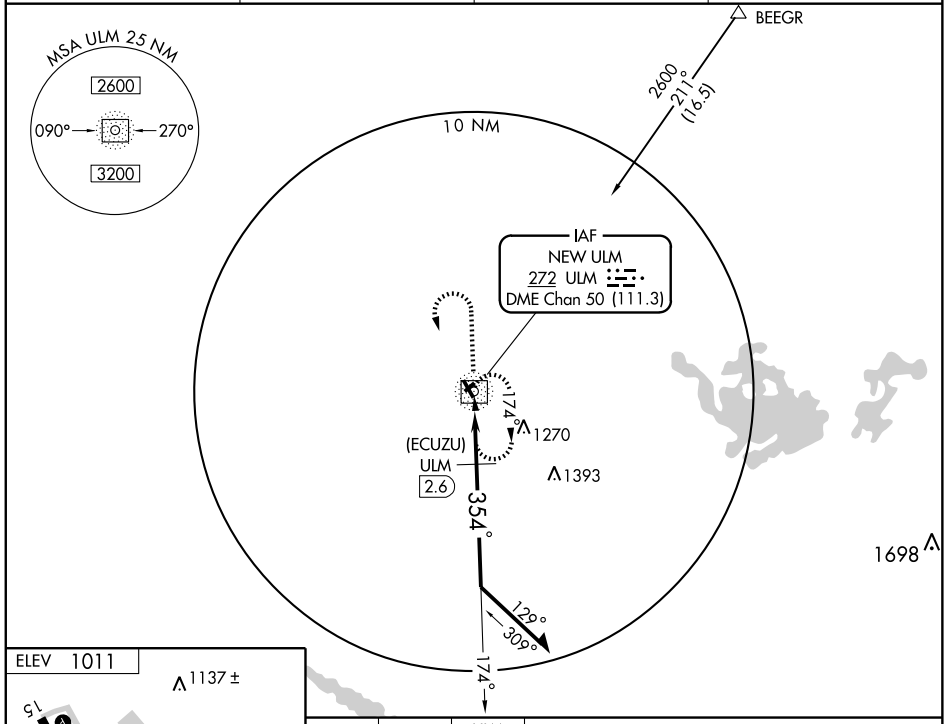
Inoperative table does not apply to S-33 Cats C and D.

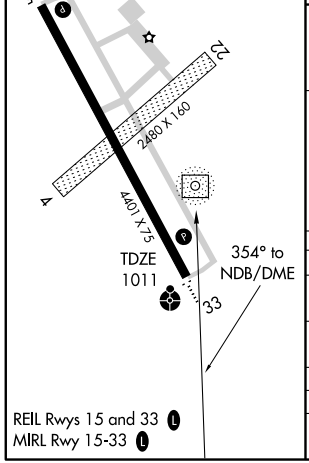
NA

ODALS

MISSED APPROACH: Climb to 2600 then left turn direct ULM NDB/DME and hold.

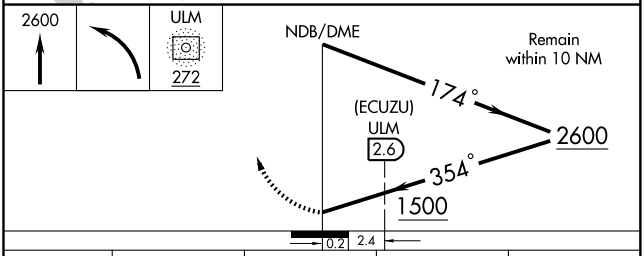
AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
118.325	127.1 290.2	121.725	122.8 (CTAF)





REIL Rwys 15 and 33

MIRL Rwy 15-33



CATEGORY	A	B	C	D
S-33	1500-¾ 489 (500-¾)		1500-1¼ 489 (500-1¼)	1500-1½ 489 (500-1½)
CIRCLING	1500-1 489 (500-1)		1500-1½ 489 (500-1½)	1740-2¼ 729 (800-2¼)
DME MINIMUMS				
S-33	1420-¾ 409 (500-¾)		1420-1¼ 409 (500-1¼)	
CIRCLING	1440-1 429 (500-1)	1480-1 469 (500-1)	1480-1½ 469 (500-1½)	1740-2¼ 729 (800-2¼)

NC-1. 08 APR 2010 to 06 MAY 2010

OLIVIA, MINNESOTA

AL-6301 (FAA)

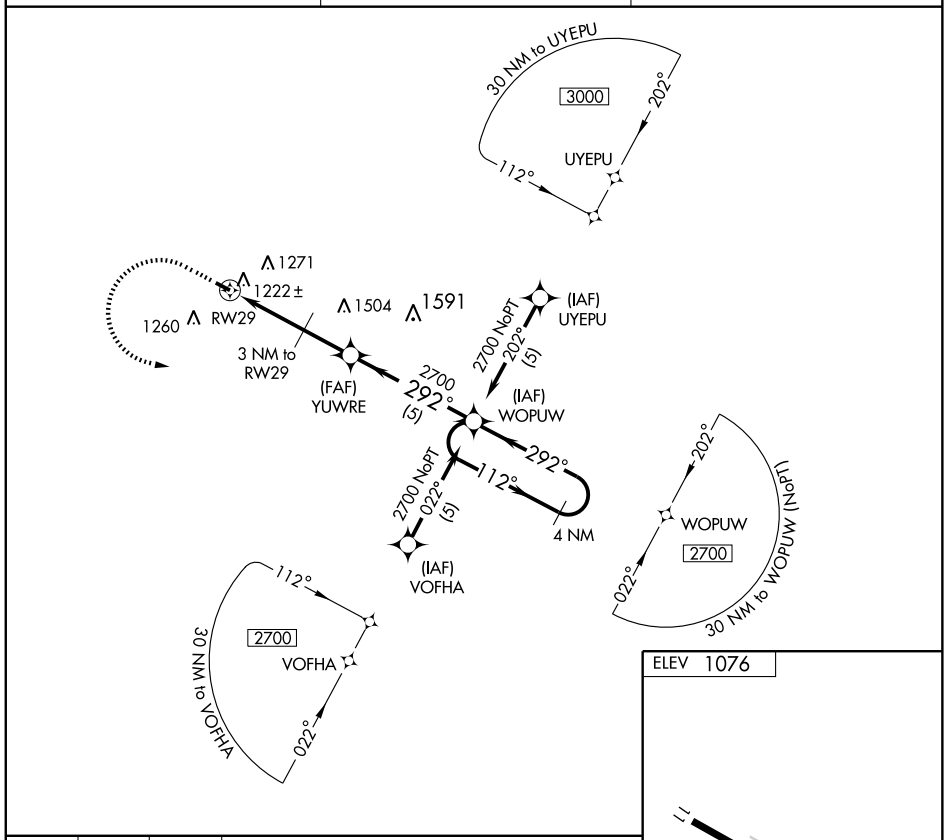
RNAV (GPS) RWY 29
OLIVIA RGNL (OVL)

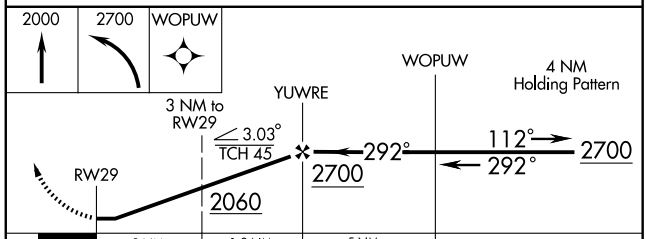
APP CRS	Rwy ldg	3498
292°	TDZE	1076
	Apt Elev	1076

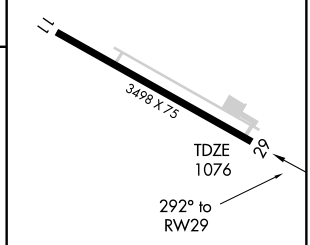
Use Redwood Falls altimeter setting.
GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 2000 then climbing left turn to 2700 direct WOPUW WP and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
119.275	127.1 290.2	122.8 (CTAF)







CATEGORY	A	B	C	D
LNAV MDA	1580-1 504 (600-1)		1580-1½ 504 (600-1½)	
CIRCLING	1620-1 544 (600-1)		1680-1¾ 604 (700-1¾)	1680-2 604 (700-2)

LIRL Rwy 11-29

NC-1. 08 APR 2010 to 06 MAY 2010

OLIVIA, MINNESOTA

AL-6301 (FAA)

VOR/DME or GPS-A

OLIVIA RGNL (OVL)

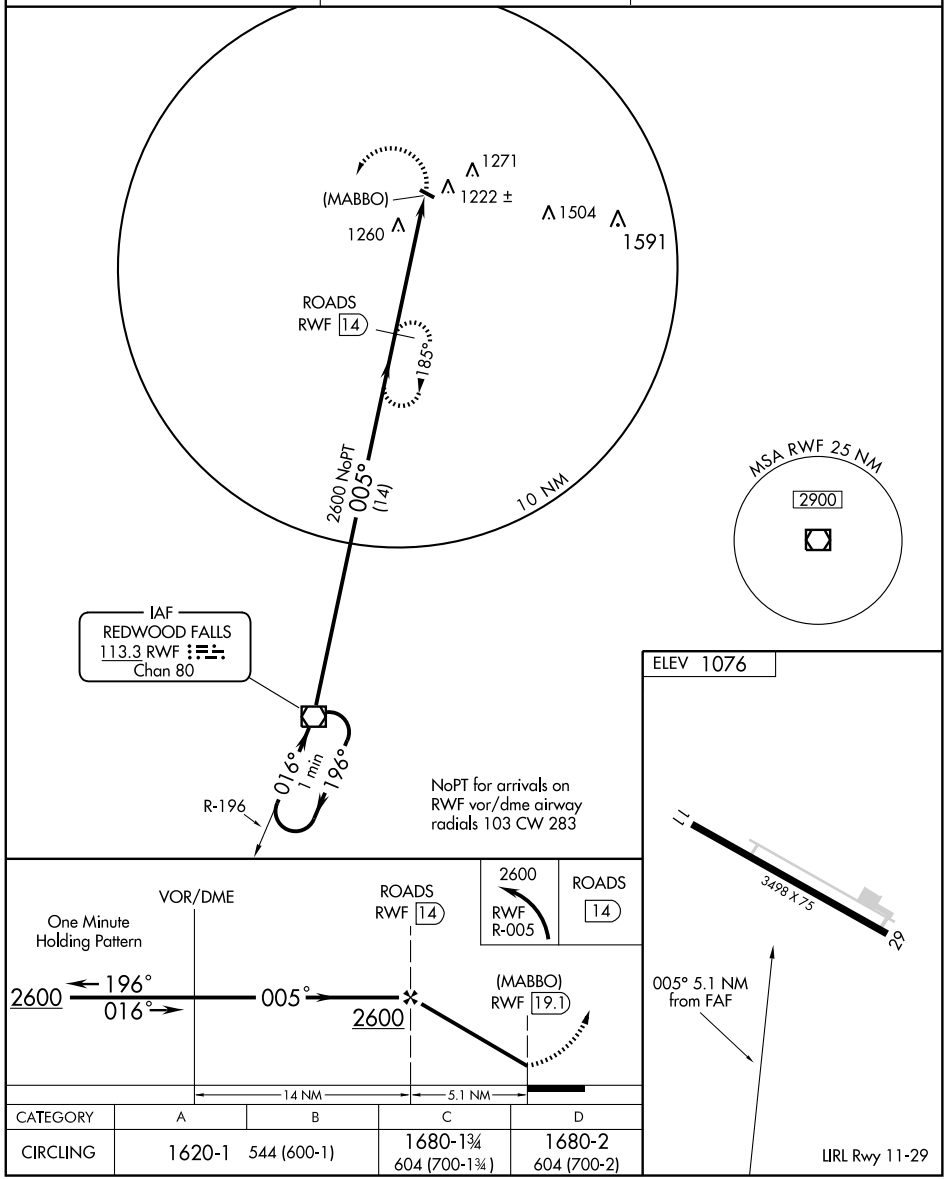
VOR/DME RWF 113.3 Chan 80	APP CRS 005°	Rwy ldg N/A TDZE N/A Apt Elev 1076

T
A NA

Use Redwood Falls, MN altimeter setting.

MISSED APPROACH: Climbing left turn to 2600 via RWF R-005 to ROADS 14 DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
119.275	127.1 290.2	122.8 (CTAF)



CATEGORY	A	B	C	D
CIRCLING	1620-1	544 (600-1)	1680-1¾ 604 (700-1¾)	1680-2 604 (700-2)

LIRL Rwy 11-29

NC-1. 08 APR 2010 to 06 MAY 2010

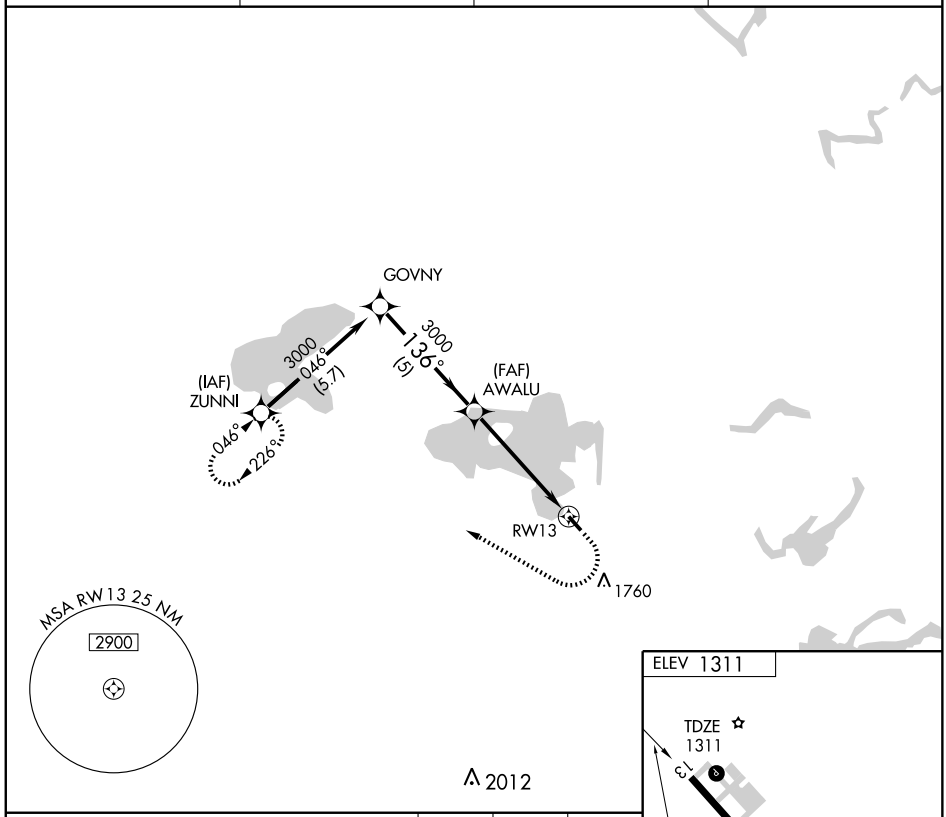
APP CRS	Rwy ldg	4001
136°	TDZE	1311
	Apt Elev	1311

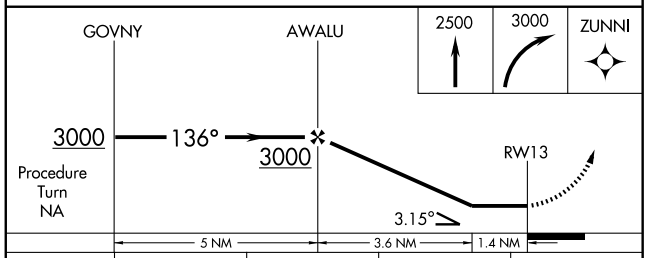
GPS RWY 13
ORR RGNL(ORB)

T
NA

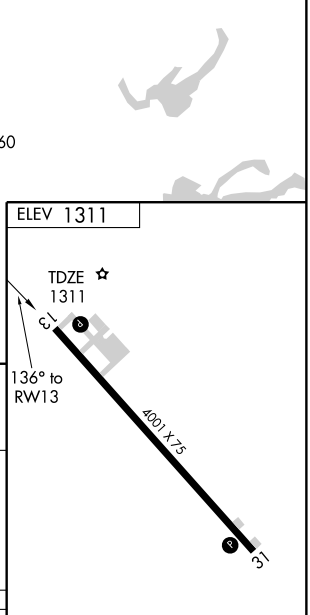
MISSED APPROACH: Climb to 2500 then climbing right turn to 3000 direct ZUNNI WP and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
118.325	120.9 377.1	121.725	122.8 (CTAF) L





CATEGORY	A	B	C	D
S-13	1760-1 449 (500-1)		1760-1¼ 449 (500-1¼)	1760-1½ 449 (500-1½)
CIRCLING	1880-1 569 (600-1)	1900-1 589 (600-1)	1900-1½ 589 (600-1½)	2120-2½ 809 (900-2½)



REIL Rwys 13 and 31 L
MIRL Rwy 13-31 L

NC-1. 08 APR 2010 to 06 MAY 2010

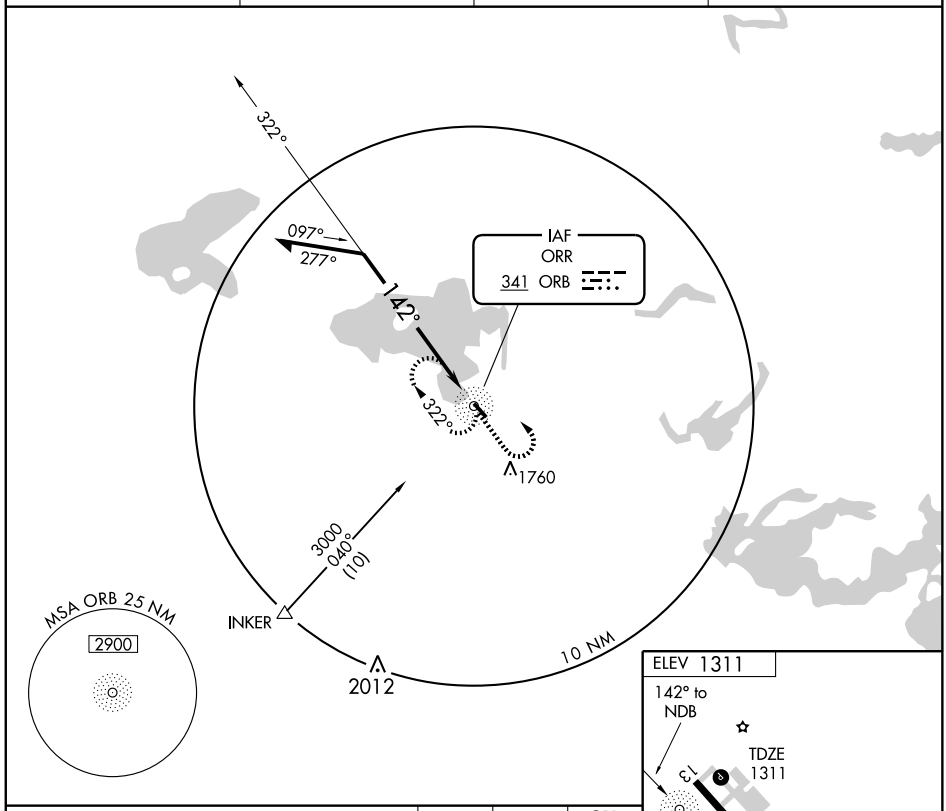
NDB ORB	APP CRS	Rwy ldg	4001
341	142°	TDZE	1311
		Apt Elev	1311

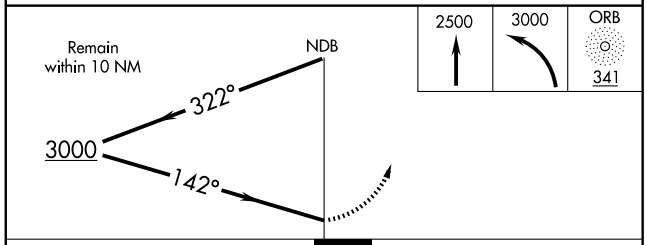
NDB RWY 13
ORR RGNL (ORB)

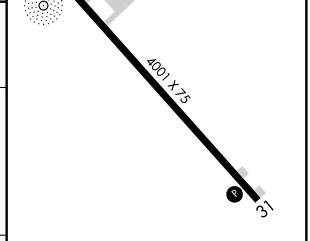
T
NA

MISSED APPROACH: Climb to 2500 then climbing left turn to 3000 direct ORB NDB and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
118.325	120.9 377.1	121.725	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-13	2000-1	689 (700-1)	2000-2 689 (700-2)	2000-2¼ 689 (700-2¼)
CIRCLING	2000-1	689 (700-1)	2000-2 689 (700-2)	2120-2½ 809 (900-2½)

REIL Rwys 13 and 31 L
MIRL Rwy 13-31 L

NC-1. 08 APR 2010 to 06 MAY 2010

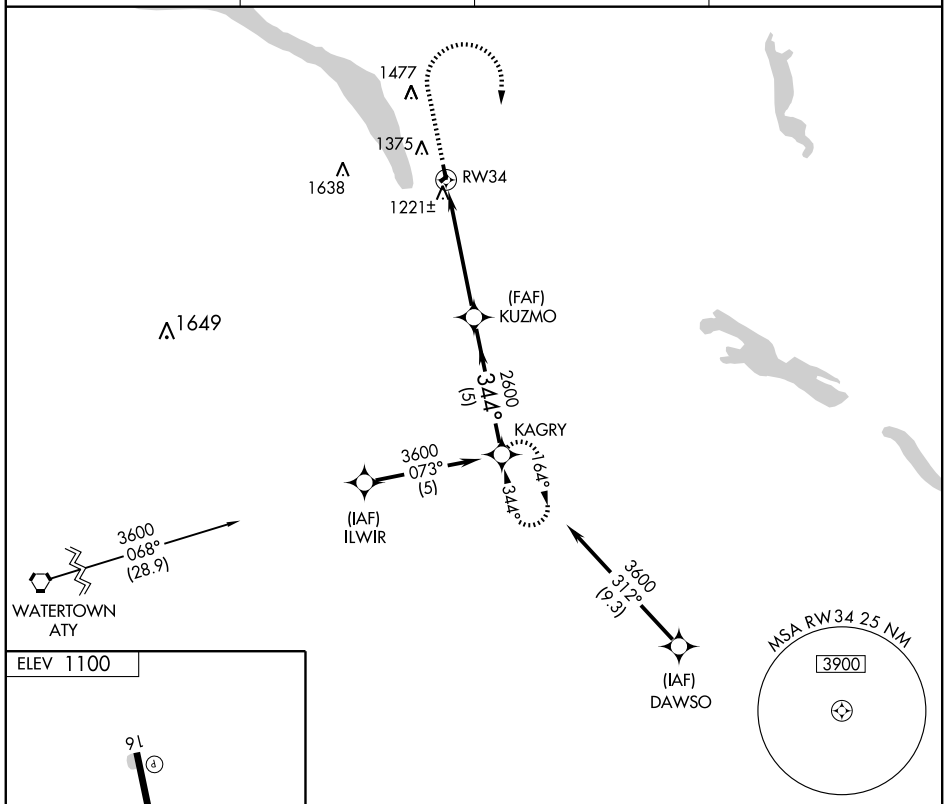
APP CRS	Rwy ldg	3417
344°	TDZE	1097
	Apt Elev	1100

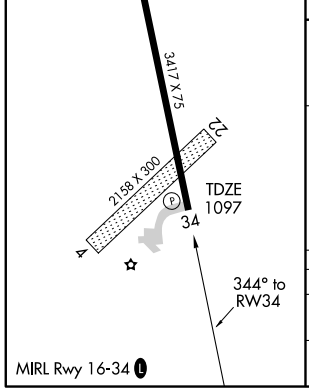
GPS RWY 34
ORTONVILLE MUNI-MARTINSON FIELD (VVV)

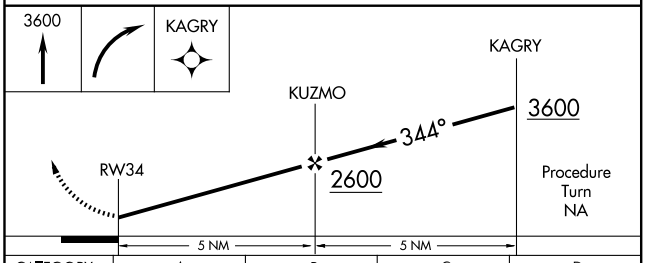
T
NA

MISSED APPROACH: Climb to 3600 then right turn direct KAGRY WP and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
332.0	128.5 306.2	121.725	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-34	1540-1 443 (500-1)		1540-1¼ 443 (500-1¼)	NA
CIRCLING	1740-1 640 (700-1)		1740-1¾ 640 (700-1¾)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

NDB VVV 332	APP CRS 355°	Rwy ldg 3417 TDZE 1097 Apt Elev 1100

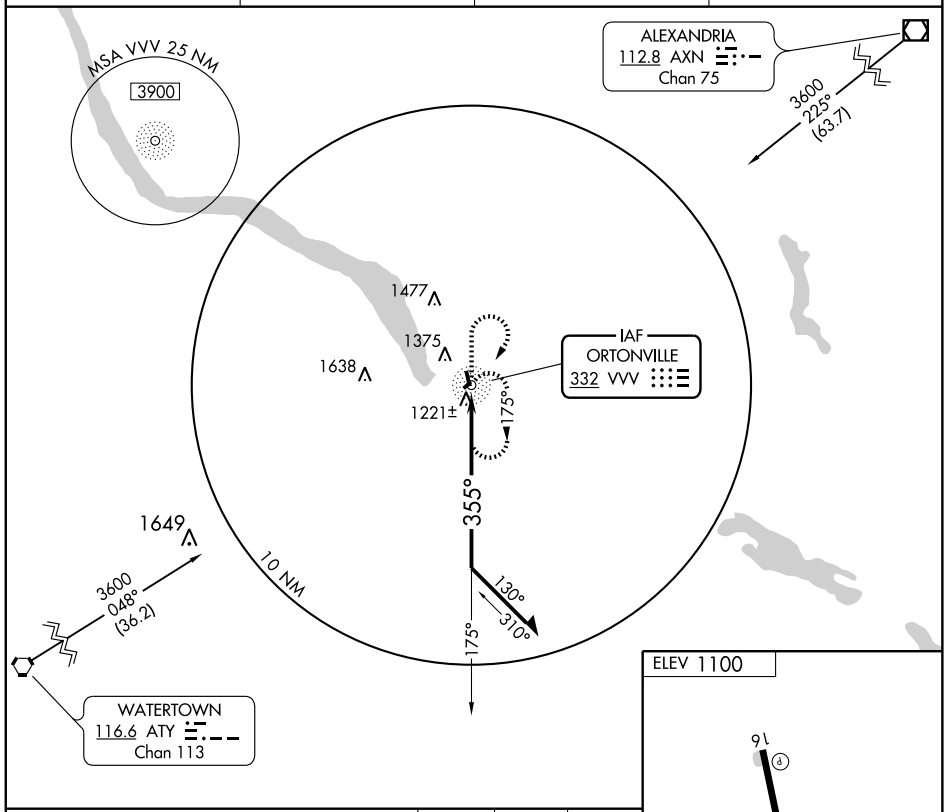
NDB RWY 34

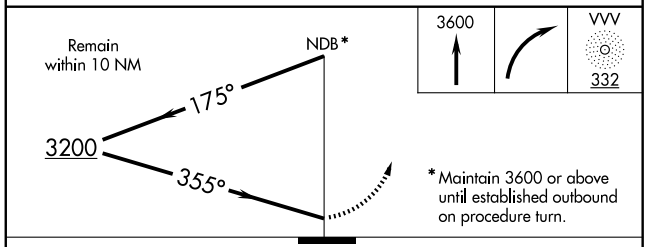
ORTONVILLE MUNI-MARTINSON FIELD (VVV)

T
A NA

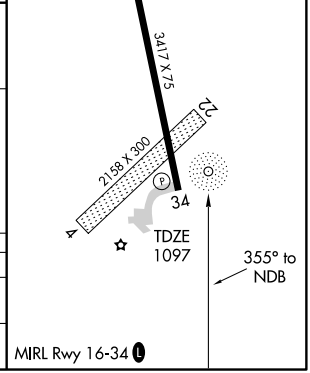
MISSED APPROACH: Climb to 3600 then right turn direct VVV NDB and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
332.0	128.5 306.2	121.725	122.8 (CTAF) L





* Maintain 3600 or above until established outbound on procedure turn.



CATEGORY	A	B	C	D
S-34	1660-1	563 (600-1)	1660-1½ 563 (600-1½)	NA
CIRCLING	1740-1	640 (700-1)	1740-1¾ 640 (700-1¾)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-OWA	APP CRS	Rwy ldg	5500
109.55	302°	TDZE	1145
		Apt Elev	1145

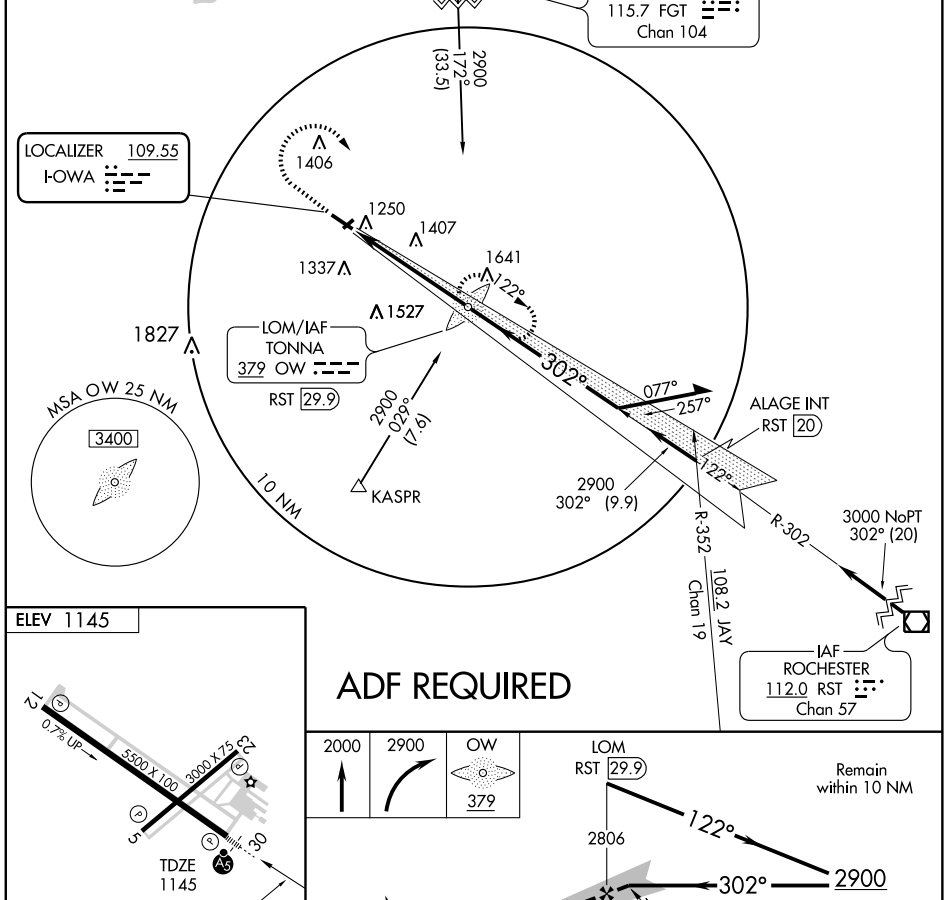
ILS RWY 30
OWATONNA DEGNER RGNL (OWA)

NA

MALSR

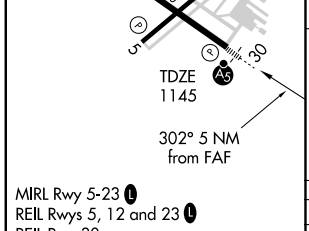
MISSED APPROACH Climb to 2000 then climbing right turn to 2900 direct TONNA LOM and hold.

AWOS-3	ROCHESTER APP CON ★	UNICOM
128.325	119.8 251.125	122.7 (CTAF) L



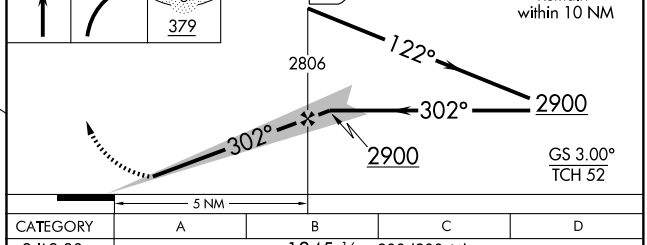
ADF REQUIRED

ELEV 1145



MIRL Rwy 5-23 L
REIL Rwys 5, 12 and 23 L
REIL Rwy 30
HIRL Rwy 12-30 L

FAF to MAP 5 NM					
Knots	60	90	120	150	180
Min:Sec	5:00	3:20	2:30	2:00	1:40



CATEGORY	A	B	C	D
S-ILS 30	1345-½ 200 (200-½)			
S-LOC 30	1680-½ 535 (600-½)		1680-1 535 (600-1)	1680-1¼ 535 (600-1¼)
CIRCLING	1680-1 535 (600-1)		1720-1½ 575 (600-1½)	1720-2 575 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

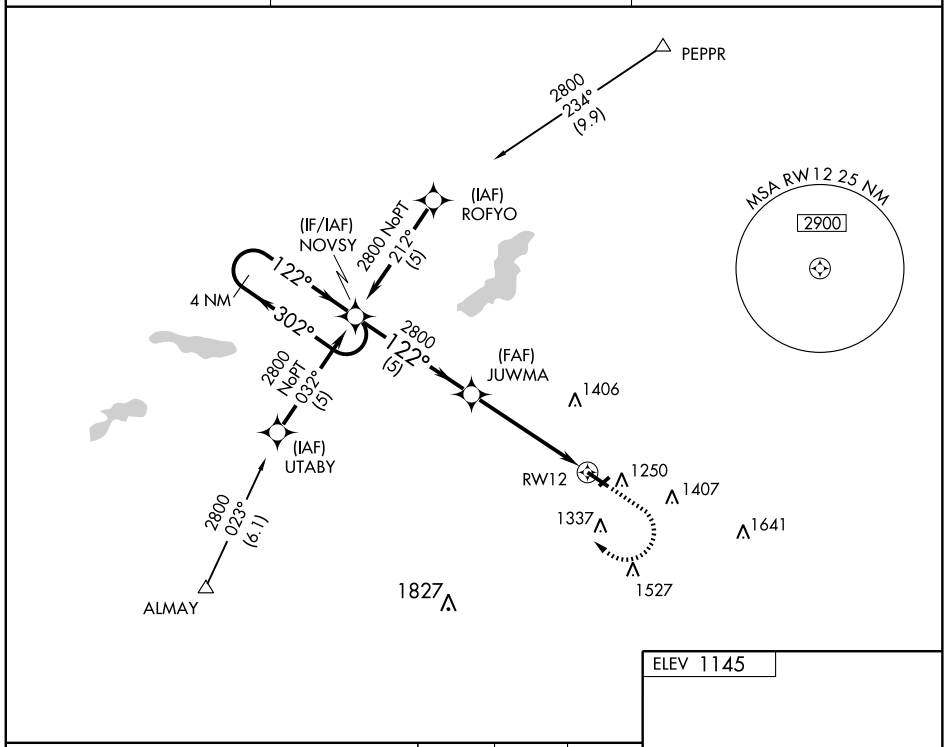
APP CRS	Rwy ldg	5500
122°	TDZE	1110
	Apt Elev	1145

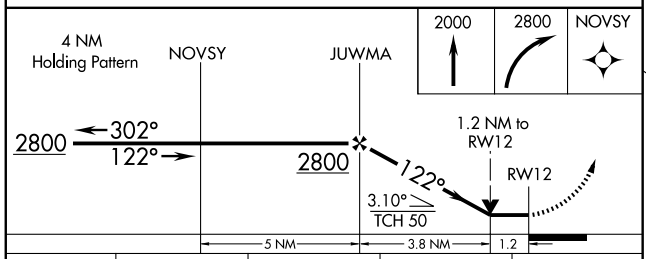
RNAV (GPS) RWY 12
OWATONNA DEGNER RGNL (OWA)

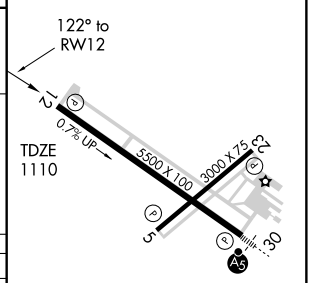
GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 2000 then climbing right turn to 2800 direct NOVSY WP and hold.

AWOS-3	ROCHESTER APP CON ★	UNICOM
128.325	119.8 251.125	122.7 (CTAF) L







CATEGORY	A	B	C	D
GLS PA DA	NA			
LNAV/VNAV DA	NA			
LNAV MDA	1540-1 430 (400-1)		1540-1¼ 430 (400-1¼)	1540-1½ 430 (400-1½)
CIRCLING	1620-1 475 (500-1)	1700-1 555 (600-1)	1700-1½ 555 (600-1½)	1720-2 575 (600-2)

MIRL Rwy 5-23 L
REIL Rwys 5, 12 and 23 L
REIL Rwy 30
HIRL Rwy 12-30 L

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME FOW	APP CRS	Rwy ldg	5500
111.2	313°	TDZE	1145
Chan 49		Apt Elev	1145

VOR/DME RWY 30

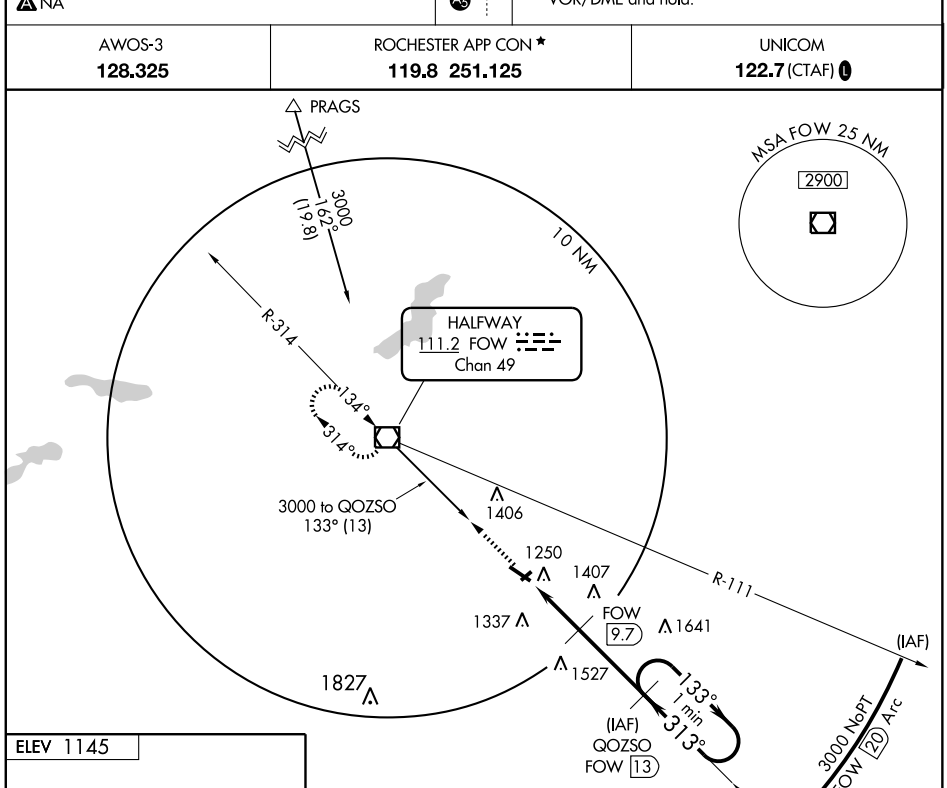
OWATONNA DEGNER RGNL (OWA)

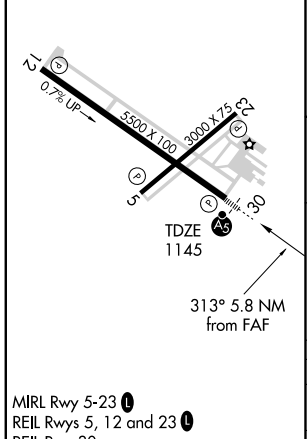
NA

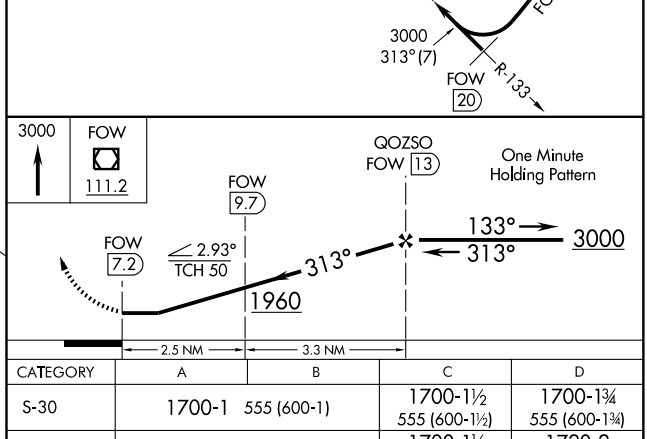
MALSR

MISSED APPROACH: Climb to 3000 direct FOW VOR/DME and hold.

AWOS-3	ROCHESTER APP CON ★	UNICOM
128.325	119.8 251.125	122.7 (CTAF) L







CATEGORY	A	B	C	D
S-30	1700-1 555 (600-1)		1700-1½ 555 (600-1½)	1700-1¾ 555 (600-1¾)
CIRCLING	1700-1 555 (600-1)		1700-1½ 555 (600-1½)	1720-2 575 (600-2)

MIRL Rwy 5-23 L
REIL Rwys 5, 12 and 23 L
REIL Rwy 30
HIRL Rwy 12-30 L

NC-1. 08 APR 2010 to 06 MAY 2010

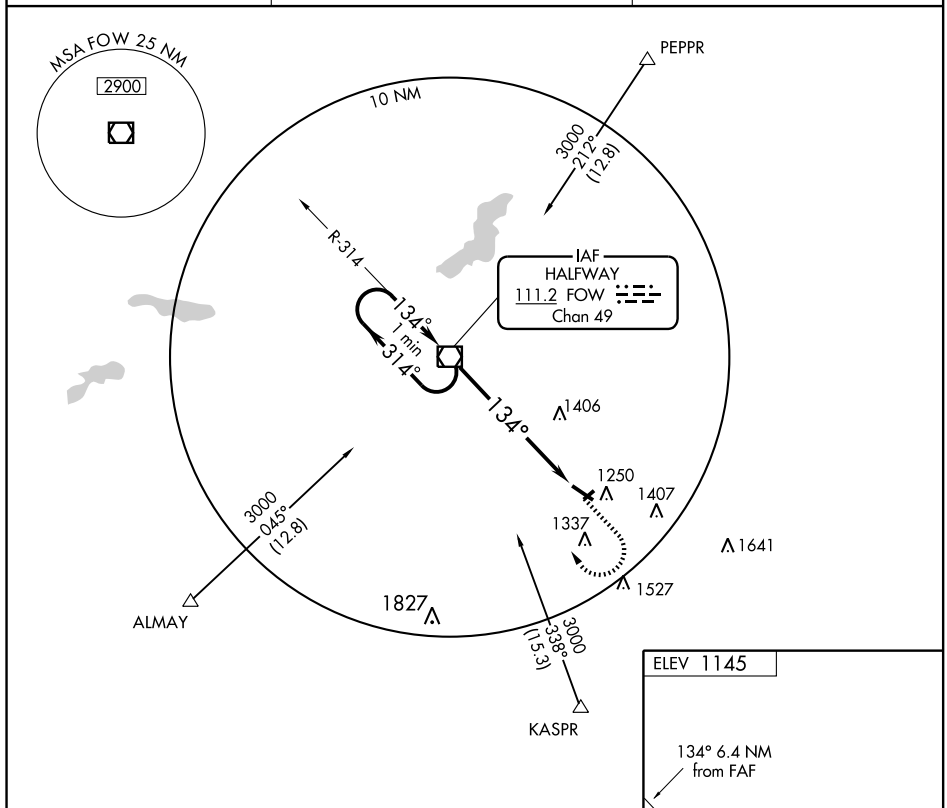
VOR/DME FOW	APP CRS	Rwy ldg	5500
111.2	134°	TDZE	1110
Chan 49		Apt Elev	1145

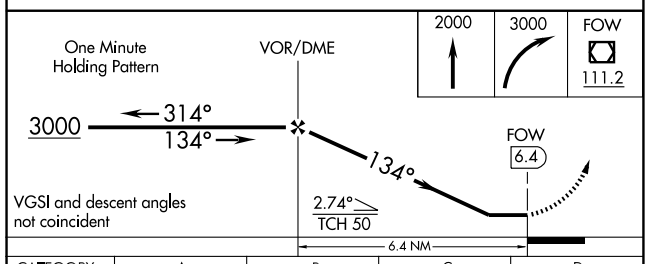
VOR RWY 12
OWATONNA DEGNER RGNL (OWA)

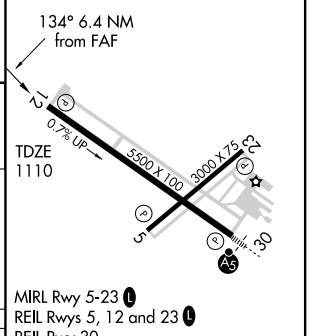
T
NA

MISSED APPROACH Climb to 2000 then climbing right turn to 3000 direct FOW VOR/DME and hold.

AWOS-3	ROCHESTER APP CON ★	UNICOM
128.325	119.8 251.125	122.7 (CTAF) L







MIRL Rwy 5-23 L
REIL Rwys 5, 12 and 23 L
REIL Rwy 30
HIRL Rwy 12-30 L

CATEGORY	A	B	C	D
S-12	1560-1 450 (500-1)		1560-1¼ 450 (500-1¼)	1560-1½ 450 (500-1½)
CIRCLING	1620-1 475 (500-1)	1700-1 555 (600-1)	1700-1½ 555 (600-1½)	1720-2 575 (600-2)

FAF to MAP 6.4 NM					
Knots	60	90	120	150	180
Min:Sec	6:24	4:16	3:12	2:34	2:08

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-PKD	APP CRS	Rwy ldg	5498
110.9	311°	TDZE	1443
		Apt Elev	1443

ILS RWY 31

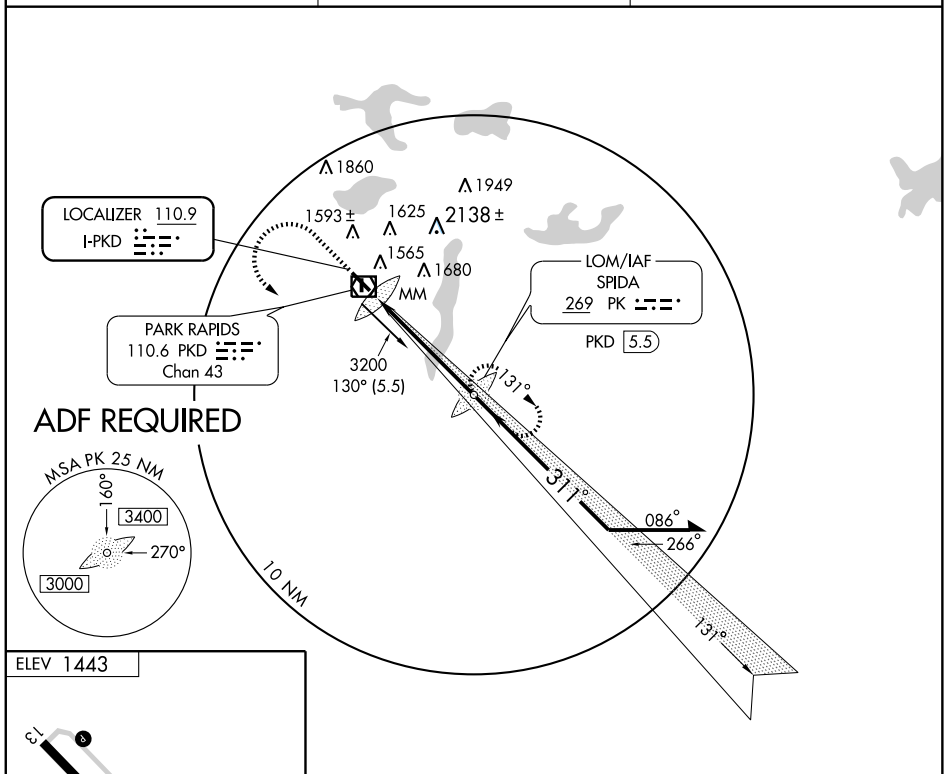
PARK RAPIDS MUNI-KONSHOK FIELD (PKD)

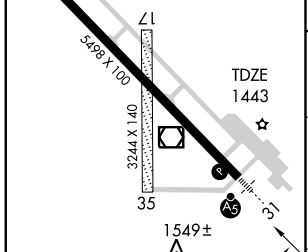
NA

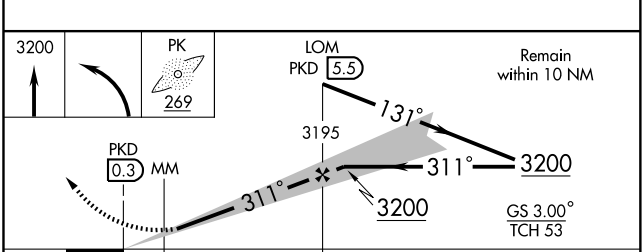
MALSR

MISSED APPROACH: Climb to 3200 then left turn direct Spida LOM and hold.

ASOS	PRINCETON RADIO	UNICOM
110.6	122.1R	123.0 (CTAF) L







FAF to MAP 5.2 NM					
Knots	60	90	120	150	180
Min:Sec	5:12	3:28	2:36	2:05	1:44

CATEGORY	A	B	C	D
S-ILS 31	1643-½ 200 (200-½)			
S-LOC 31	1800-½ 357 (400-½)			1800-¾ 357 (400-¾)
CIRCLING	1920-1 477 (500-1)		1920-1½ 477 (500-1½)	2000-2 557 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

LOM PK	APP CRS	Rwy ldg	5498
269	311°	TDZE	1443
		Apt Elev	1443

NDB or GPS RWY 31

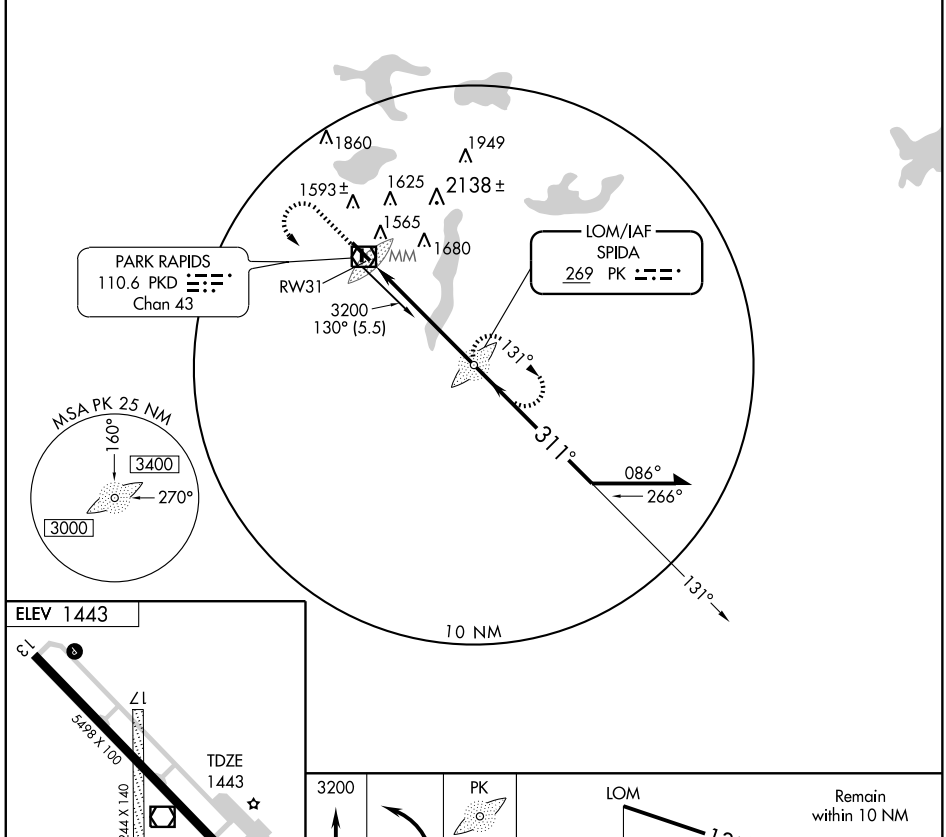
PARK RAPIDS MUNI-KONSHOK FIELD (PKD)

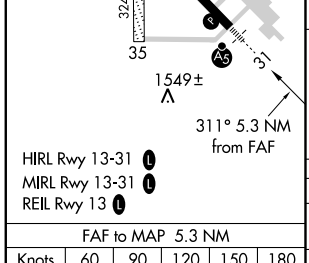
NA

MALSR

MISSED APPROACH: Climb to 3200, then left turn direct PK LOM and hold.

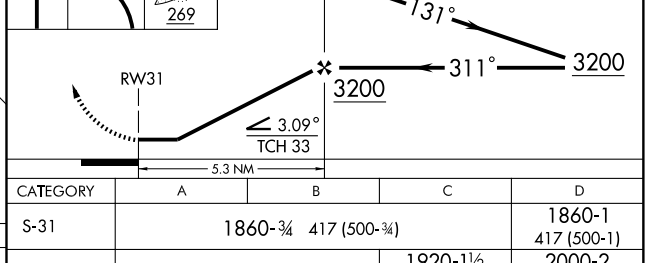
ASOS	PRINCETON RADIO	UNICOM
110.6	122.1R	123.0 (CTAF) L





HIRL Rwy 13-31 L
MIRL Rwy 13-31 L
REIL Rwy 13 L

FAF to MAP 5.3 NM					
Knots	60	90	120	150	180
Min:Sec	5:18	3:32	2:39	2:07	1:46



CATEGORY	A	B	C	D
S-31	1860-¾ 417 (500-¾)			1860-1 417 (500-1)
CIRCLING	1920-1 477 (500-1)		1920-1½ 477 (500-1½)	2000-2 557 (600-2)

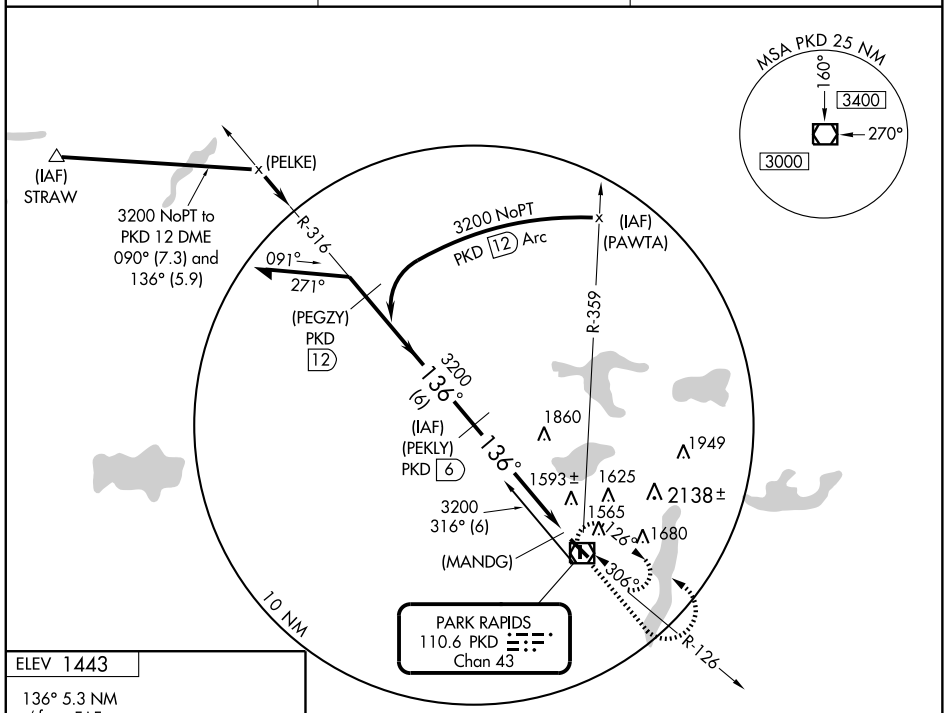
VOR/DME PKD 110.6 Chan 43	APP CRS 136°	Rwy ldg 5498 TDZE 1443 Apt Elev 1443

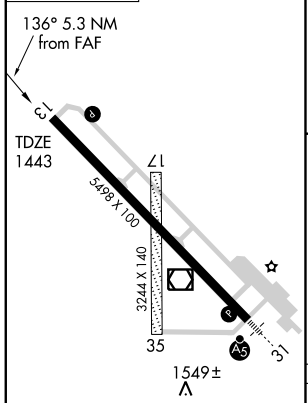
VOR/DME or GPS RWY 13

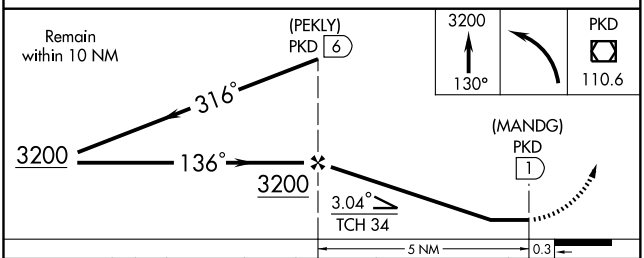
PARK RAPIDS MUNI-KONSHOK FIELD (PKD)

MISSED APPROACH: Climb to 3200 via heading 130° then left turn direct PKD VOR/DME and hold.

ASOS	PRINCETON RADIO	UNICOM
110.6	122.1R	123.0 (CTAF) L







HIRL Rwy 13-31 L
MIRL Rwy 13-31 L
REIL Rwy 13 L

CATEGORY	A	B	C	D
S-13	1860-1 417 (500-1)		1860-1¼ 417 (500-1¼)	
CIRCLING	1920-1 477 (500-1)		1920-1½ 477 (500-1½)	2000-2 557 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME PKD	APP CRS		
110.6 Chan 43	306°	Rwy ldg	5498
		TDZE	1443
		Apt Elev	1443

VOR RWY 31

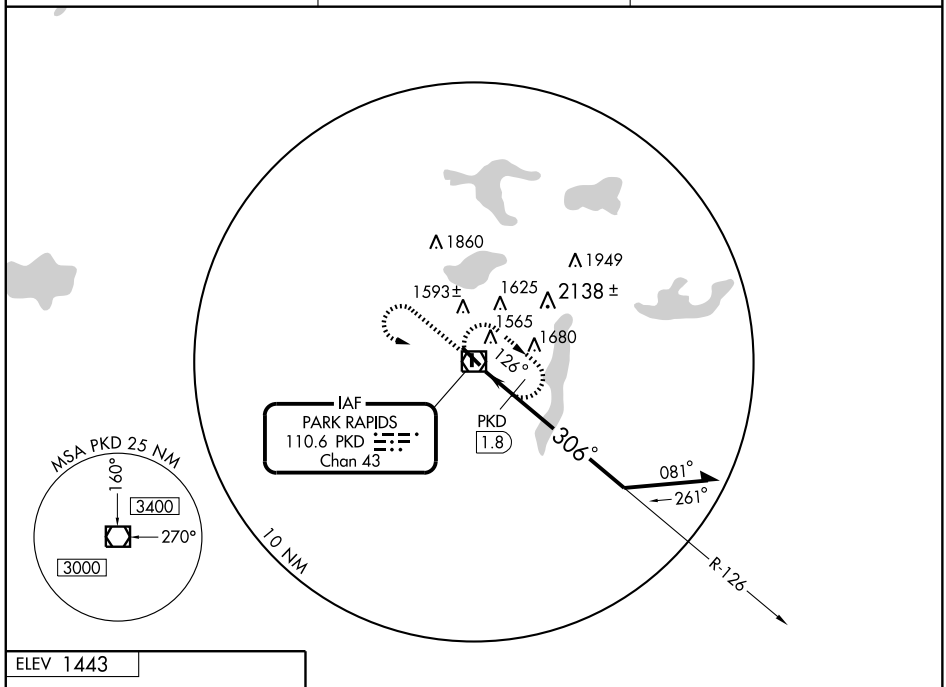
PARK RAPIDS MUNI-KONSHOK FIELD (PKD)

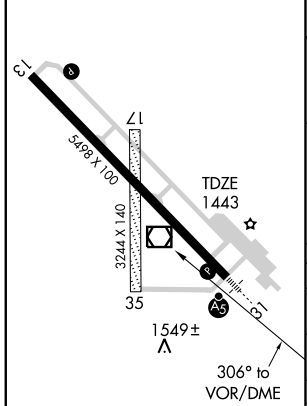
For inoperative MALSR, increase Cat. D S-31. DME minimums visibility ¼ mile.

MALSR

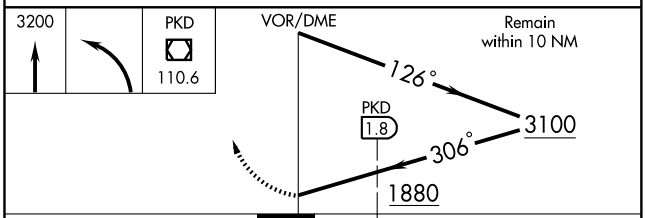
MISSED APPROACH: Climb to 3200, then left turn direct PKD VOR/DME and hold.

ASOS	PRINCETON RADIO	UNICOM
110.6	122.1R	123.0 (CTAF) L





HIRL Rwy 13-31 L
MIRL Rwy 13-31 L
REIL Rwy 13 L



CATEGORY	A	B	C	D
S-31	1880-½ 437 (500-½)		1880-¾ 437 (500-¾)	1800-1 437 (500-1)
CIRCLING	1920-1 477 (500-1)		1920-1½ 477 (500-1½)	2000-2 557 (600-2)
DME MINIMUMS				
S-31	1820-½ 377 (400-½)			1820-1 377 (400-1)
CIRCLING	1920-1 477 (500-1)		1920-1½ 477 (500-1½)	2000-2 557 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	4100
305°	TDZE	1373
	Apt Elev	1376

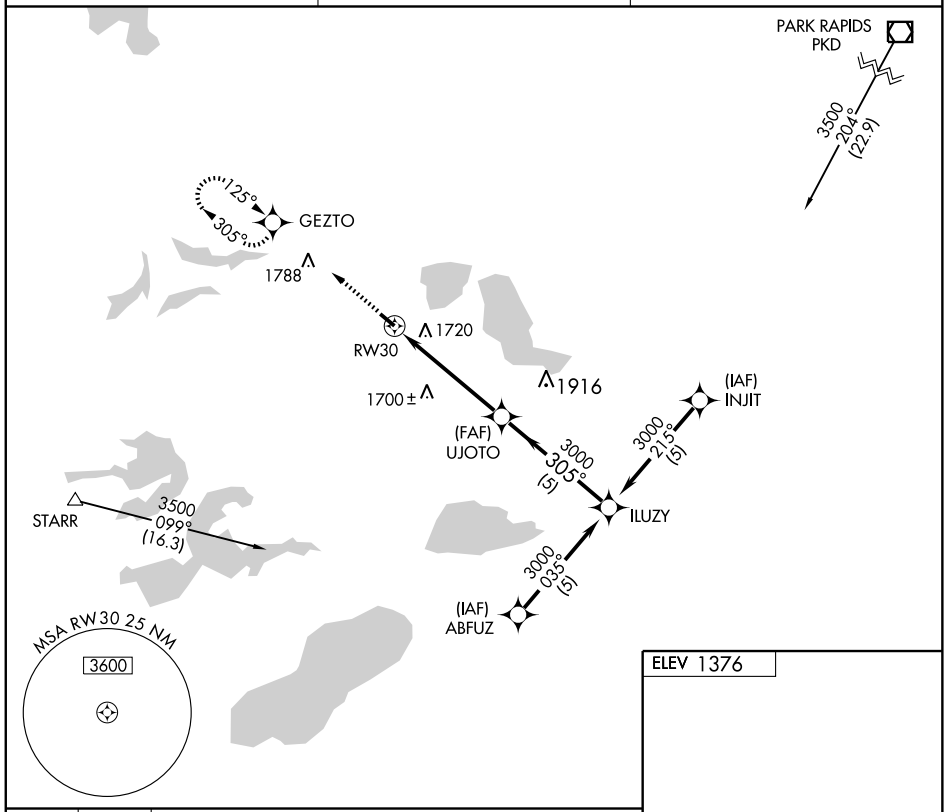
GPS RWY 30
PERHAM MUNI (16D)

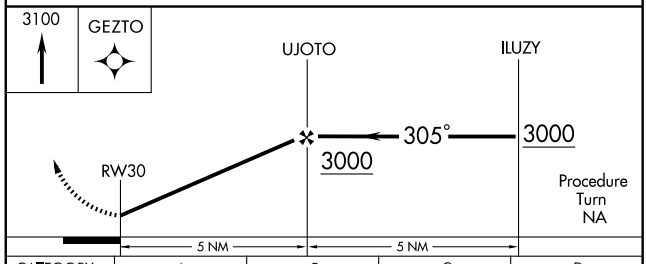
T
NA

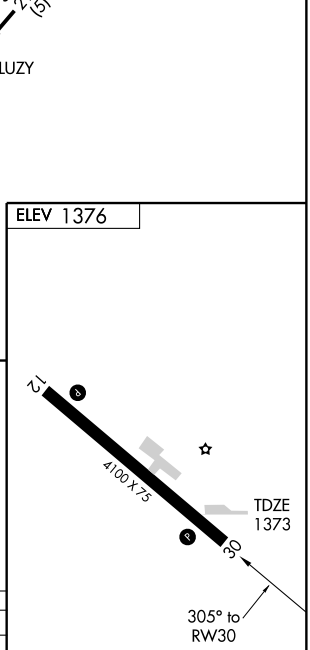
Use Detroit Lakes altimeter setting.

MISSED APPROACH: Climb to 3100 direct GEZTO WP and hold.

MINNEAPOLIS CENTER	GCO	CTAF
126.1 269.2	121.725	122.9 L







MIRL Rwy 12-30 L
REIL Rwy 12-30 L

CATEGORY	A	B	C	D
S-30	2080-1 707 (800-1)		NA	
CIRCLING	2120-1 744 (800-1)	2120-1¼ 744 (800-1¼)	NA	

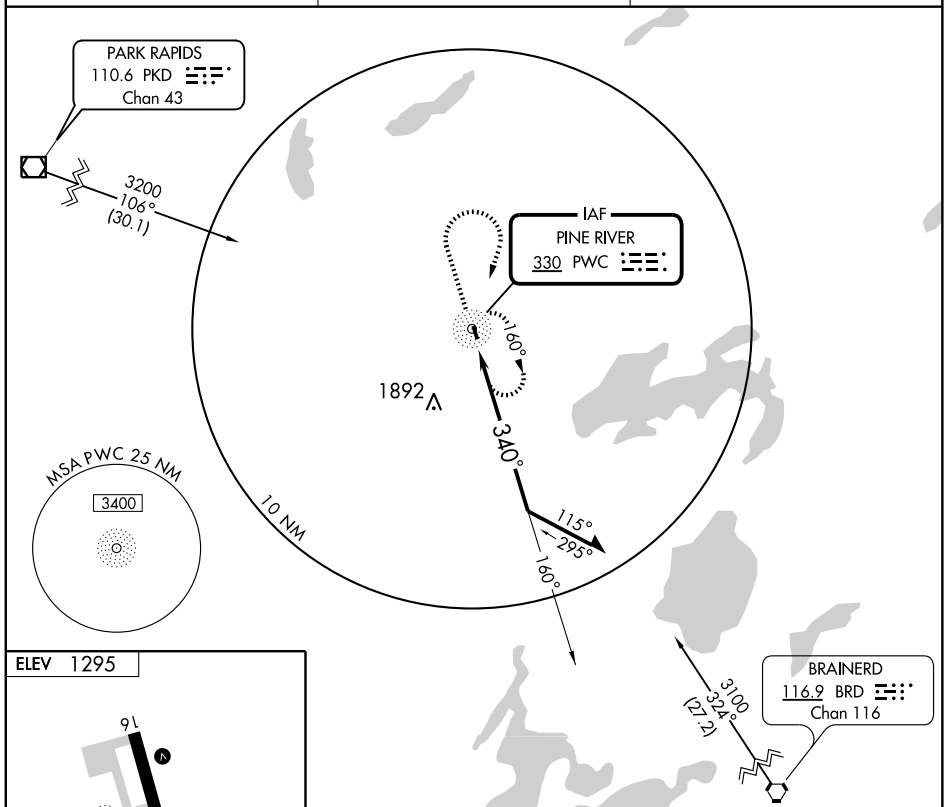
NDB PWC	APP CRS	Rwy ldg	3000
330	340°	TDZE	1295
		Apt Elev	1295

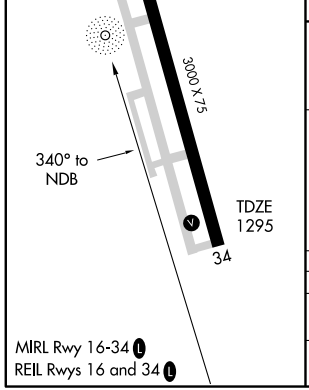
NDB RWY 34
PINE RIVER RGNL (PWC)

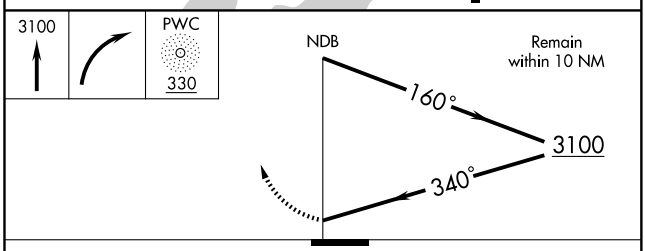
NA

MISSED APPROACH: Climb to 3100 then right turn direct PWC NDB and hold.

ASOS-3	MINNEAPOLIS CENTER	CTAF
118.525	118.05 239.0	122.9 L







CATEGORY	A	B	C	D
S-34	2060-1 765 (800-1)	2060-1¼ 765 (800-1¼)	2060-2¼ 765 (800-2¼)	NA
CIRCLING	2060-1 765 (800-1)	2060-1¼ 765 (800-1¼)	2060-2¼ 765 (800-2¼)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	3000
340°	TDZE	1295
	Apt Elev	1295

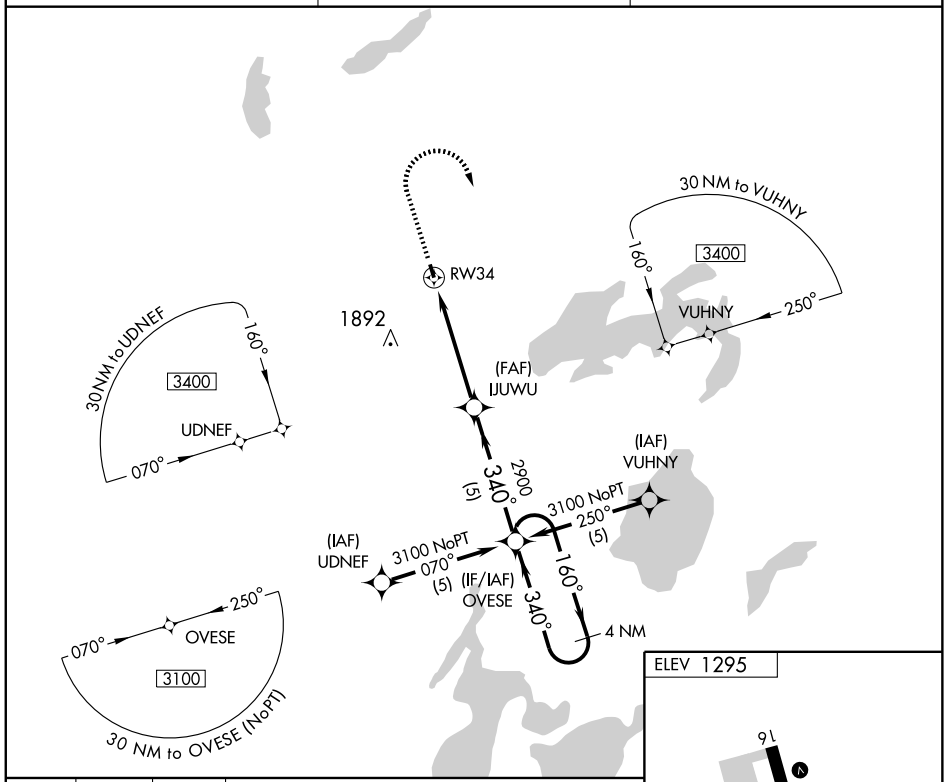
RNAV (GPS) RWY 34
PINE RIVER RGNL (PWC)

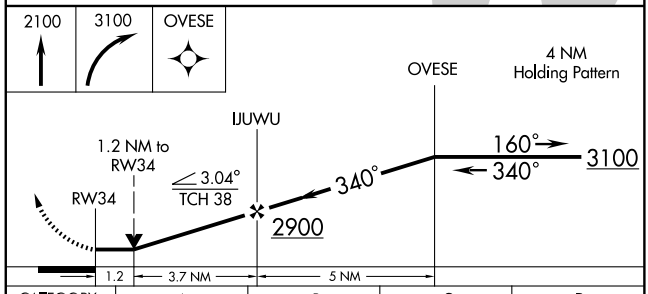
NA

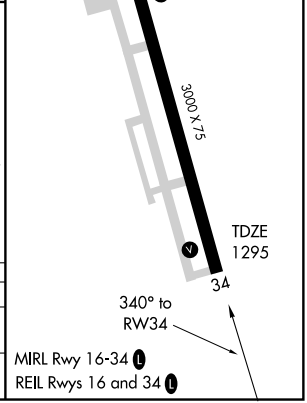
GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 2100 then climbing right turn to 3100 direct OVESE WP and hold.

ASOS-3	MINNEAPOLIS CENTER	CTAF
118.525	118.05 239.0	122.9 L







CATEGORY	A	B	C	D
LNAV MDA	1700-1 405 (500-1)		1700-1¼ 405 (500-1¼)	NA
CIRCLING	1760-1 465 (500-1)		1760-1½ 465 (500-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

NDB PFT	APP CRS	Rwy ldg	3298
342	315°	TDZE	1078
		Apt Elev	1078

NDB or GPS RWY 33

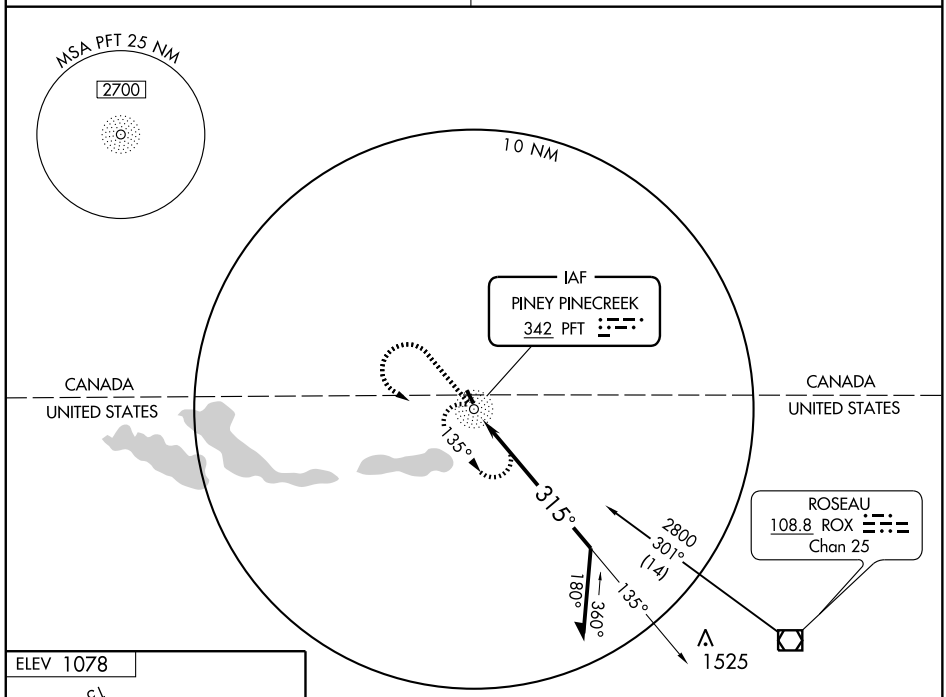
PINECREEK/ PINEY PINECREEK BORDER (48Y)

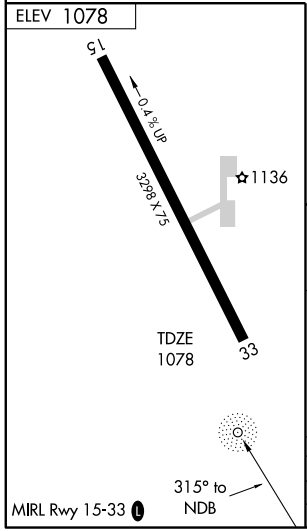
NA

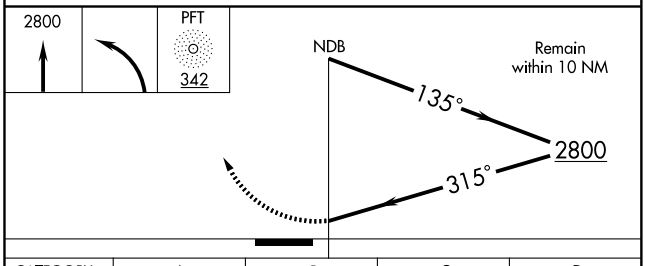
Use Roseau, MN altimeter setting.

MISSED APPROACH: Climb to 2800 then left turn direct PFT NDB and hold.

MINNEAPOLIS CENTER	UNICOM
134.75 251.1	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-33	1600-1	522 (600-1)	NA	
CIRCLING	1600-1	522 (600-1)	NA	

NC-1. 08 APR 2010 to 06 MAY 2010

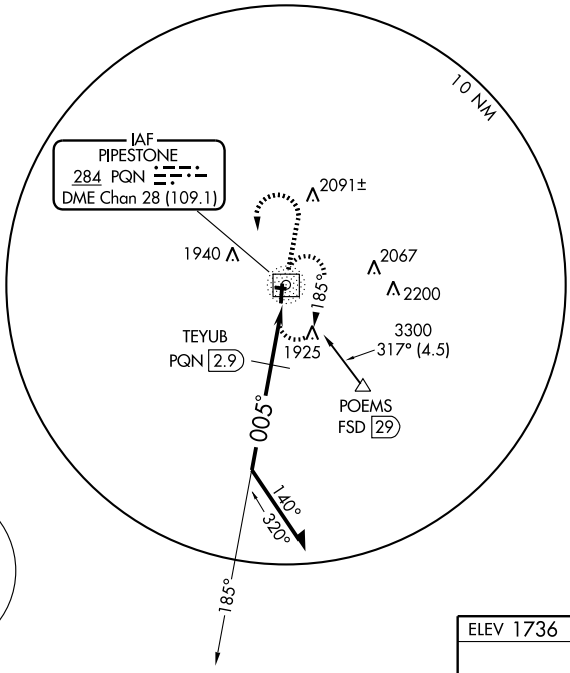
NDB/DME PQN 284 DME Chan 28 (109.1)	APP CRS 005°	Rwy ldg 4302 TDZE 1734 Apt Elev 1736

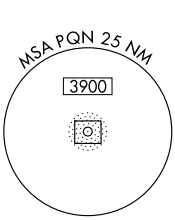
NDB RWY 36
PIPESTONE MUNI (PQN)

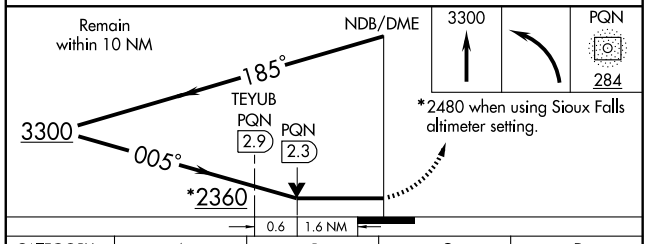
When local altimeter setting not received, use Sioux Falls altimeter setting and increase all MDAs 120 feet, S-36 Cat. B visibility ¼ mile, Cat. C visibility ½ mile and TEYUB FIX MINIMUMS Cat. C visibility ¼ mile.
VDP NA with Sioux Falls altimeter setting.

MISSED APPROACH: Climb to 3300 then left turn direct PQN NDB and hold.

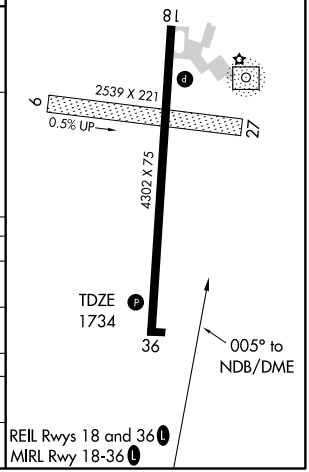
AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
118.375	132.05 317.4	121.725	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-36	2360-1	626 (700-1)	2360-1¾ 626 (700-1¾)	NA
CIRCLING	2360-1	624 (700-1)	2360-1¾ 624 (700-1¾)	NA
TEYUB FIX MINIMUMS				
S-36	2280-1	546 (600-1)	2280-1½ 546 (600-1½)	NA
CIRCLING	2280-1	544 (600-1)	2280-1½ 544 (600-1½)	NA



NC-1. 08 APR 2010 to 06 MAY 2010

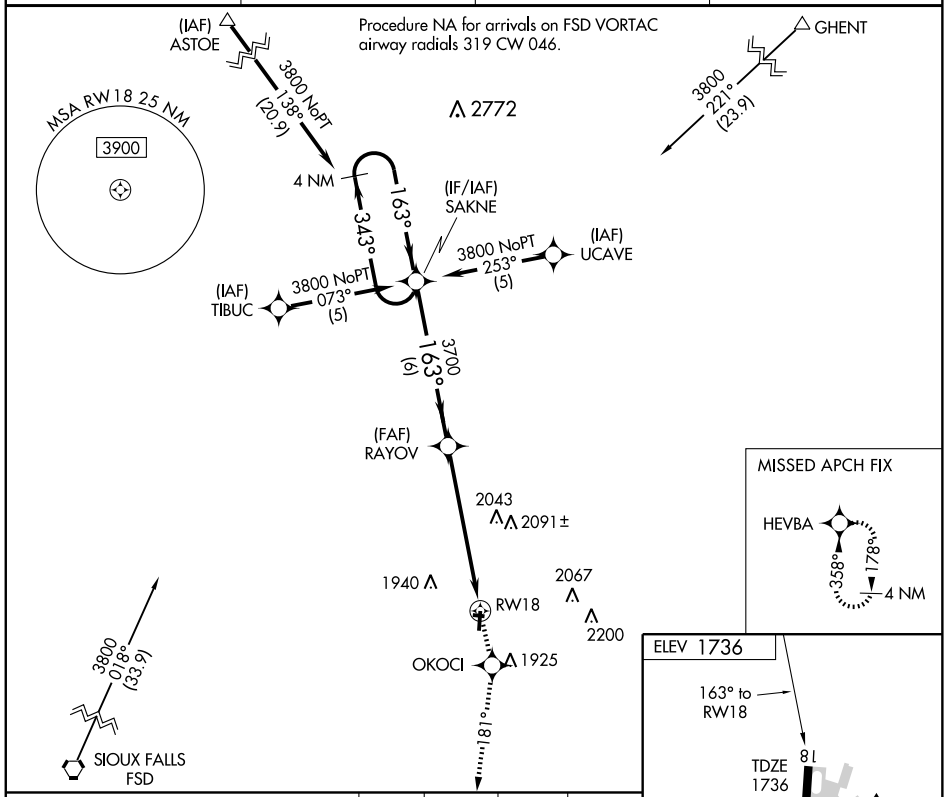
APP CRS 163°	Rwy ldg	4302
	TDZE	1736
	Apt Elev	1736

RNAV (GPS) RWY 18
PIPESTONE MUNI (PQN)

DME/DME RNP -0.3 NA.
When local altimeter setting not received, use Sioux Falls altimeter setting and increase all MDAs 120 feet and Cat C visibility ¼ mile. VDP NA with Sioux Falls altimeter setting.

MISSED APPROACH: Climb to 3300 direct OKOCI and via 181° track to HEVBA and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
118.375	132.05 317.4	121.725	122.8 (CTAF) L



CATEGORY	A	B	C	D
LNAV MDA	2180-1 444 (500-1)		2180-1¼ 444 (500-1¼)	NA
CIRCLING	2180-1 444 (500-1)	2200-1 464 (500-1)	2280-1½ 544 (600-1½)	NA

MIRL Rwy 18-36 L
REIL Rwys 18 and 36 L

NC-1. 08 APR 2010 to 06 MAY 2010

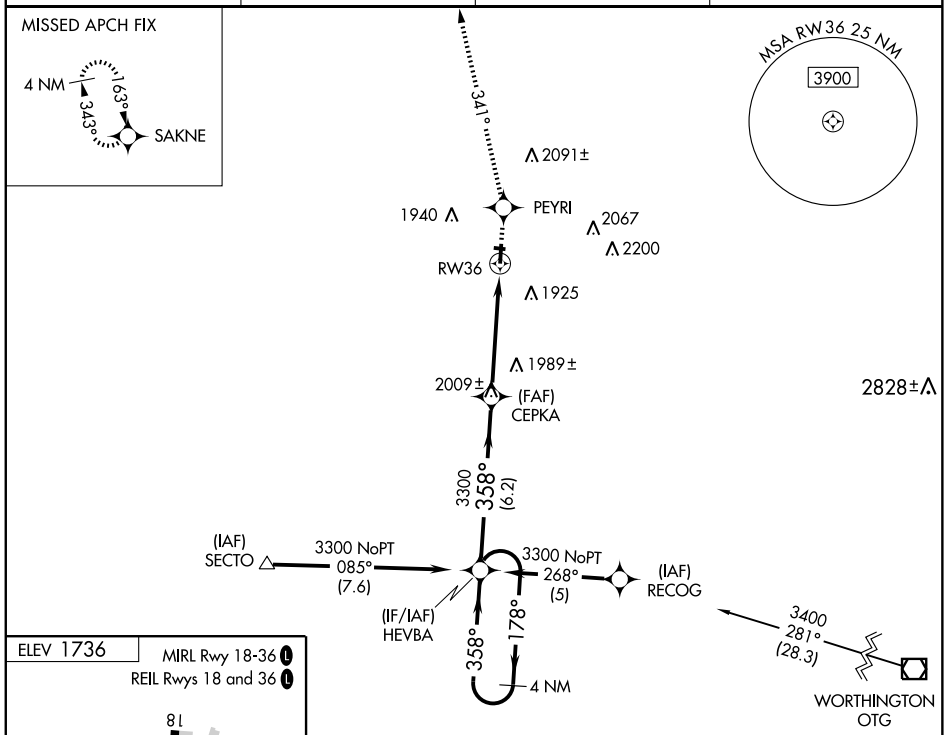
APP CRS	Rwy ldg	4302
358°	TDZE	1734
	Apt Elev	1736

RNAV (GPS) RWY 36
PIPESTONE MUNI (PQN)

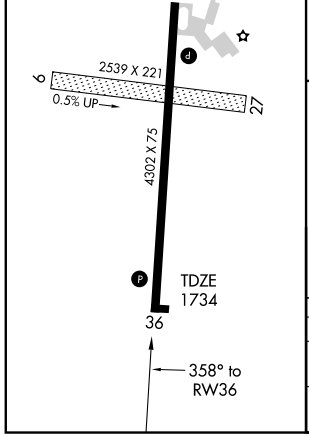
DME/DME RNP -0.3 NA.
When local altimeter setting not received, use Sioux Falls altimeter setting and increase alll MDAs 120 feet and Cat. C visibilities ¼ mile. VDP NA with Sioux Falls altimeter setting.

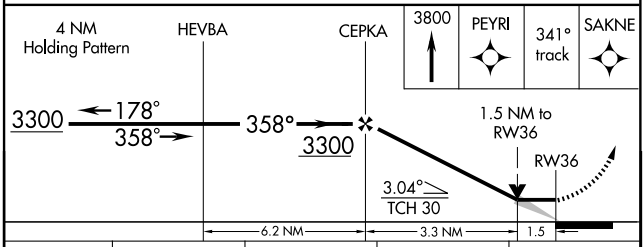
MISSED APPROACH: Climb to 3800 direct PEYRI and via 341° track to SAKNE and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
118.375	132.05 317.4	121.725	122.8 (CTAF) L



Procedure NA for arrivals at SECTO via V148 southwest bound and arrivals at OTG VOR/DME via V250 northeast bound.





CATEGORY	A	B	C	D
LNAV MDA	2240-1 506 (600-1)		2240-1½ 506 (600-1½)	NA
CIRCLING	2240-1 504 (600-1)		2280-1½ 544 (600-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS		
286°	Rwy ldg	4001
	TDZE	1276
	Apt Elev	1276

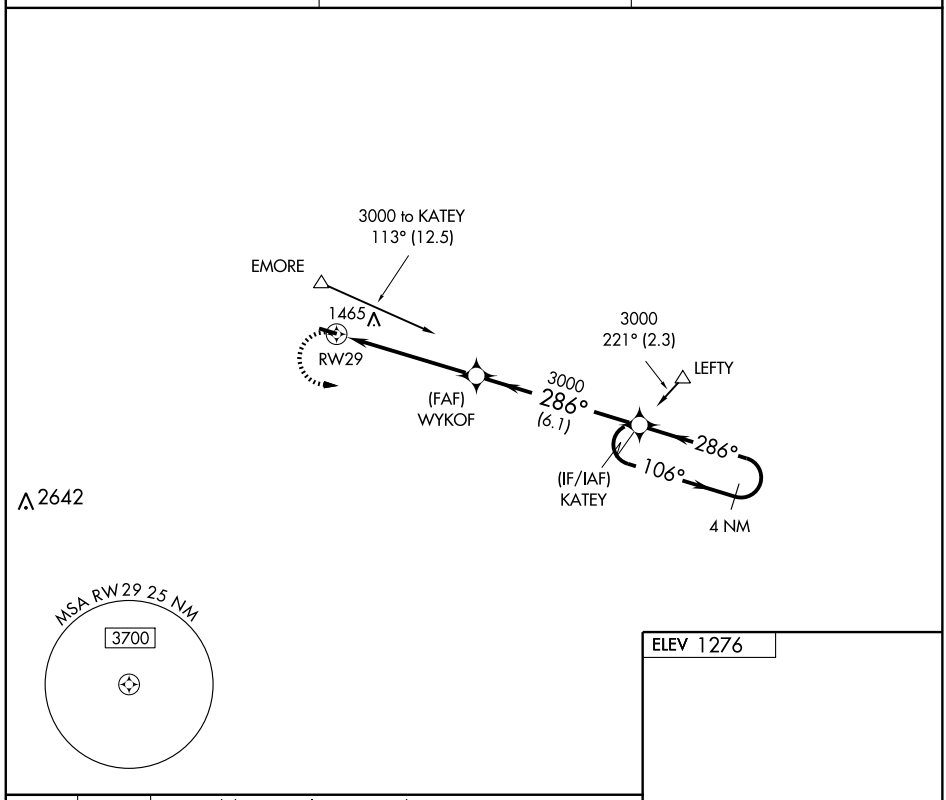
RNAV (GPS) RWY 29

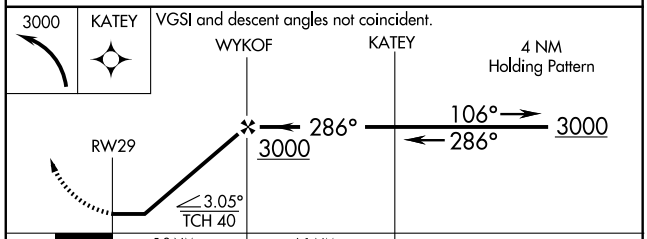
PRESTON/ FILLMORE COUNTY (FKA)

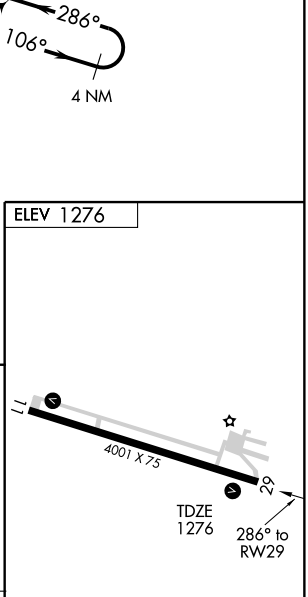
When VGSI inoperative, procedure NA at night.
DME/DME RNP-0.3 NA. Visibility reduction by helicopters NA.
When local altimeter setting not received, use Rochester Intl altimeter setting and increase all MDAs 60 feet and LNAV and Circling Cat. C visibilities ¼ mile.

MISSED APPROACH: Climbing left turn to 3000 direct KATEY and hold

AWOS-3	ROCHESTER APP CON*	CTAF
118.550	119.8 251.125	122.9 L







CATEGORY	A	B	C	D
LNAV MDA	1760-1 484 (500-1)		1760-1¼ 484 (500-1¼)	NA
CIRCLING	1760-1 484 (500-1)	1820-1 544 (600-1)	1820-1½ 544 (600-1½)	NA

MIRL Rwy 11-29 L

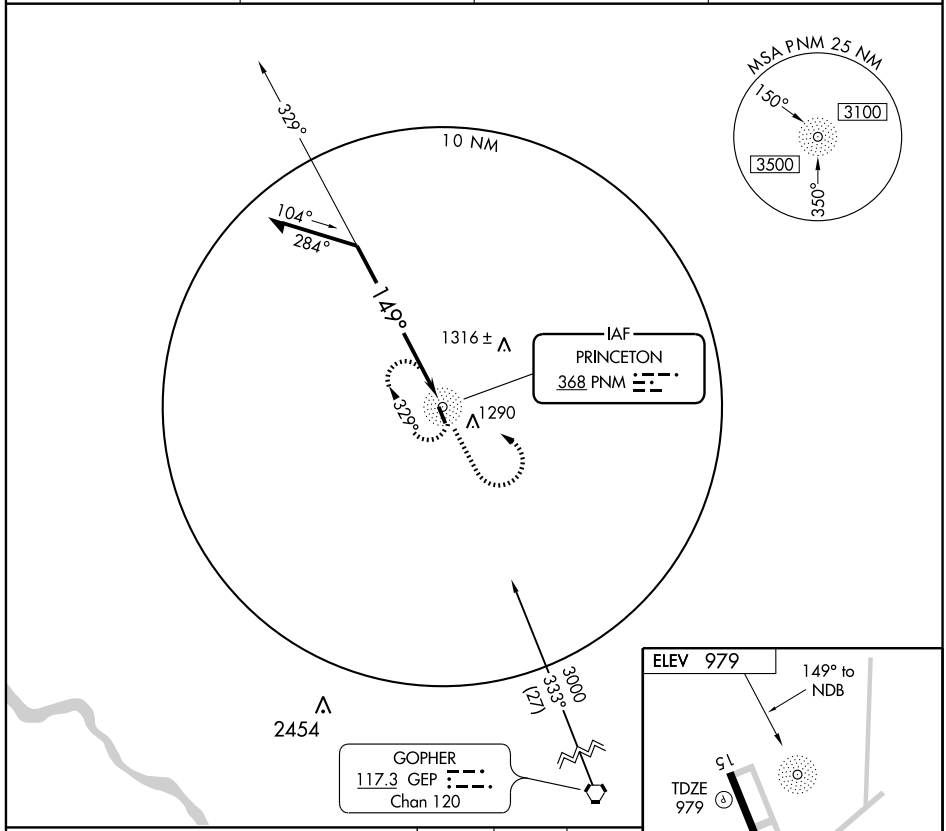
NC-1. 08 APR 2010 to 06 MAY 2010

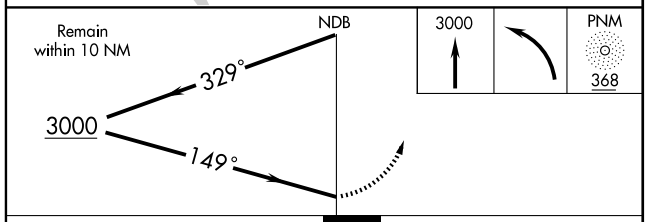
NDB PNM	APP CRS	Rwy ldg	3900
368	149°	TDZE	979
		Apt Elev	979

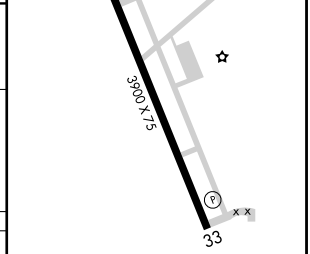
NDB RWY 15
PRINCETON MUNI (PNM)

MISSED APPROACH: Climb to 3000 then left turn direct PNM NDB and hold.

AWOS-3	MINNEAPOLIS CENTER	PRINCETON RADIO	UNICOM
119.025	121.05 397.9	122.2	123.0 (CTAF)







CATEGORY	A	B	C	D
S-15	1560-1	581 (600-1)	1560-1½ 581 (600-1½)	NA
CIRCLING	1640-1	661 (700-1)	1640-1¾ 661 (700-1¾)	NA

REIL Rwys 15 and 33
MIRL Rwy 15-33

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	3900
159°	TDZE	979
	Apt Elev	979

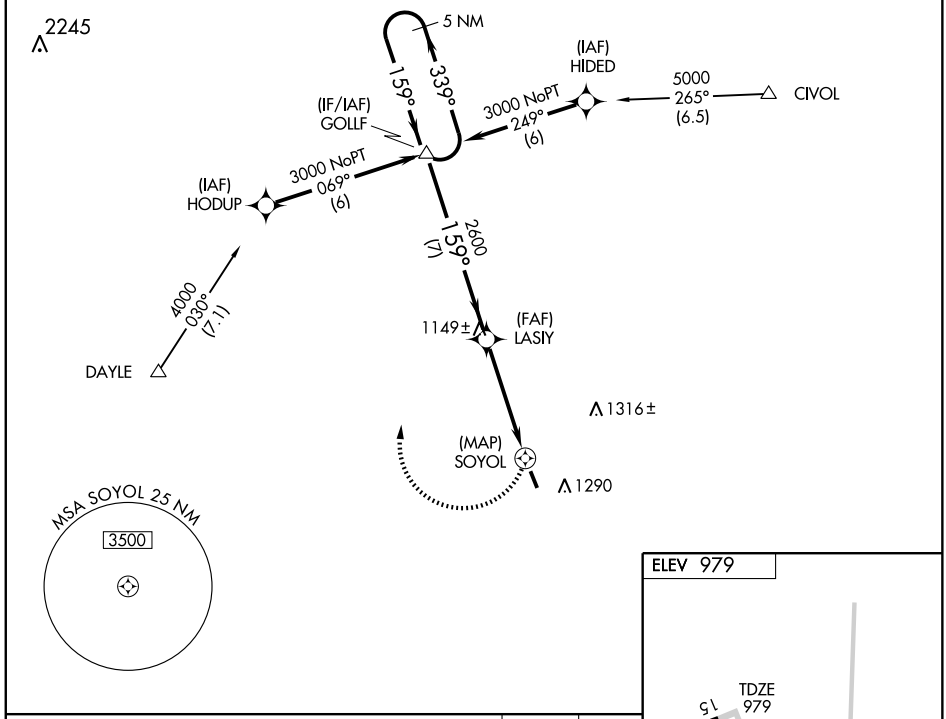
RNAV (GPS) RWY 15
PRINCETON MUNI (PNM)

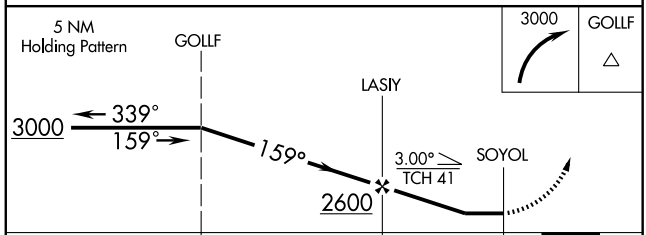
When VGSI inoperative, procedure NA at night.
DME/DME RNP-0.3 NA.
Circling Rwy 33 NA at night.

MISSED APPROACH: Climbing right turn to 3000 direct GOLLF and hold.

AWOS-3	MINNEAPOLIS CENTER	PRINCETON RADIO	UNICOM
119.025	121.05 397.9	122.2	123.0 (CTAF) L

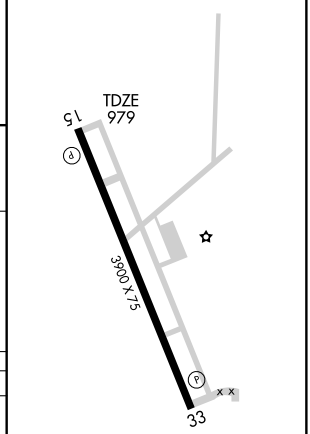
Procedure NA for arrivals on V413 southbound.





CATEGORY	A	B	C	D
LNAV MDA	1380-1 401 (500-1)		1380-1¼ 401 (500-1¼)	NA
CIRCLING	1640-1 661 (700-1)		1640-1¾ 661 (700-1¾)	NA

ELEV 979



REIL Rwys 15 and 33
MIRL Rwy 15-33 L

NC-1. 08 APR 2010 to 06 MAY 2010

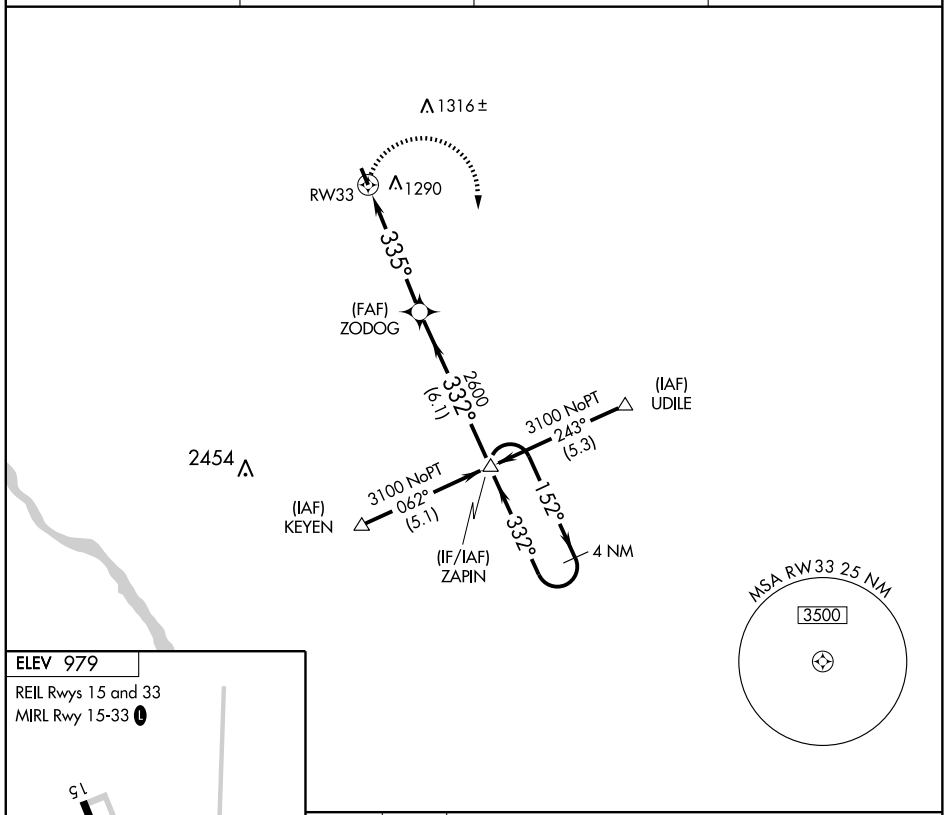
APP CRS	Rwy ldg	3900
335°	TDZE	979
	Apt Elev	979

RNAV (GPS) RWY 33
PRINCETON MUNI (PNM)

Procedure NA at night.
DME/DME RNP- 0.3 NA.

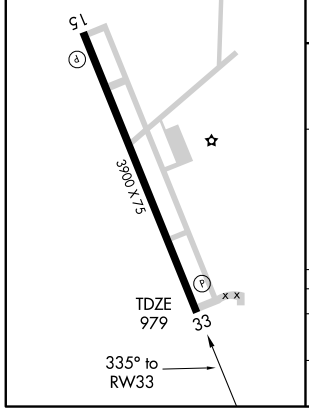
MISSED APPROACH: Climbing right turn to 3100 direct ZAPIN and hold.

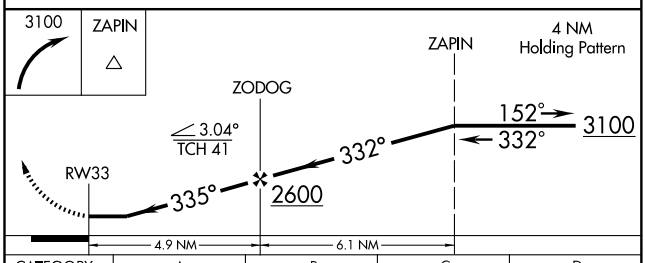
AWOS-3	MINNEAPOLIS CENTER	PRINCETON RADIO	UNICOM
119.025	121.05 397.9	122.2	123.0 (CTAF) L



ELEV 979

REIL Rwys 15 and 33
MIRL Rwy 15-33 L





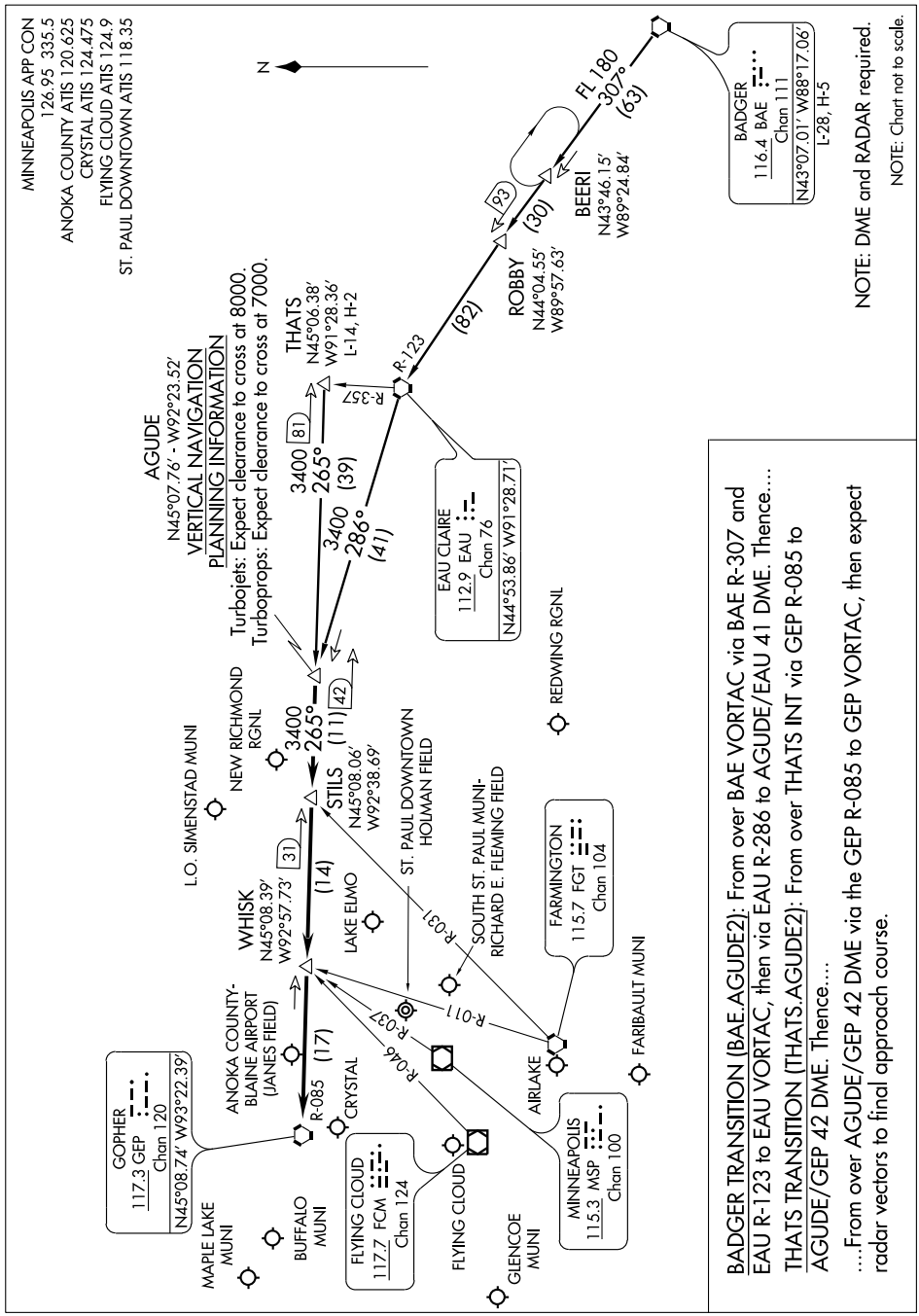
CATEGORY	A	B	C	D
LNAV MDA	1500-1 521 (600-1)		1500-1½ 521 (600-1½)	NA
CIRCLING	1640-1 661 (700-1)		1640-1¾ 661 (700-1¾)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

AGUDE TWO ARRIVAL

ST-263 (FAA)

MINNEAPOLIS-ST. PAUL, MINNESOTA



BADGER TRANSITION (BAE.AGUDE2): From over BAE VORTAC via BAE R-307 and EAU R-123 to EAU VORTAC, then via EAU R-286 to AGUDE/EAU 41 DME. Thence....

THATS TRANSITION (THATS.AGUDE2): From over THATS INT via GEP R-085 to AGUDE/GEP 42 DME. Thence....

....From over AGUDE/GEP 42 DME via the GEP R-085 to GEP VORTAC, then expect radar vectors to final approach course.

RED WING, MINNESOTA

AL-6662 (FAA)

LOC I-RGK	APP CRS	Rwy ldg	5010
110.1	091°	TDZE	778
		Apt Elev	780

ILS RWY 9

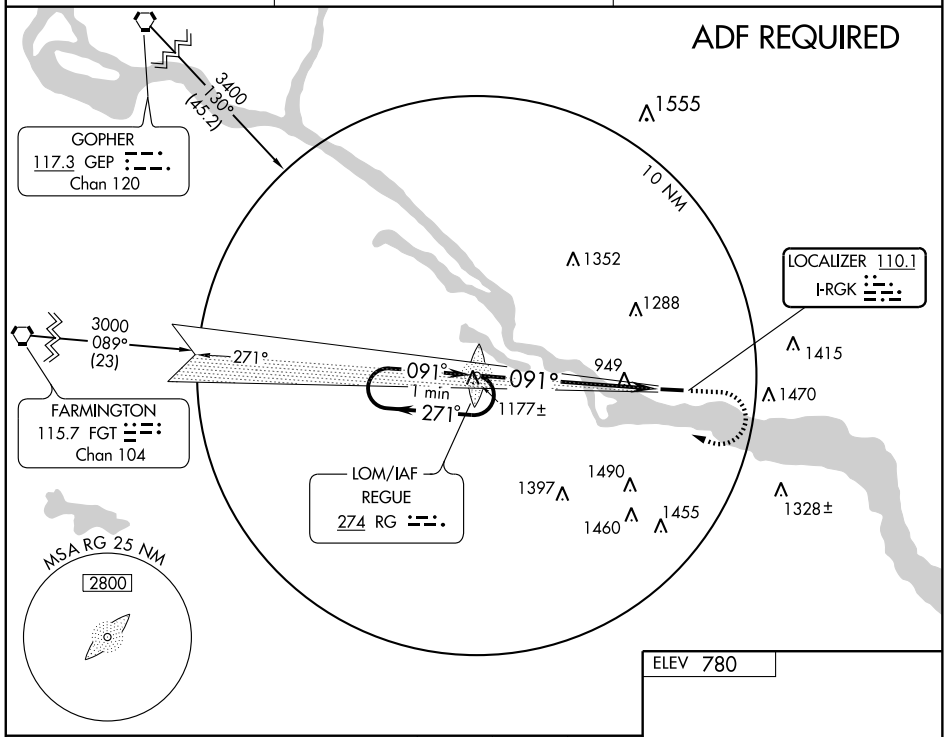
RED WING RGNL (RGK)

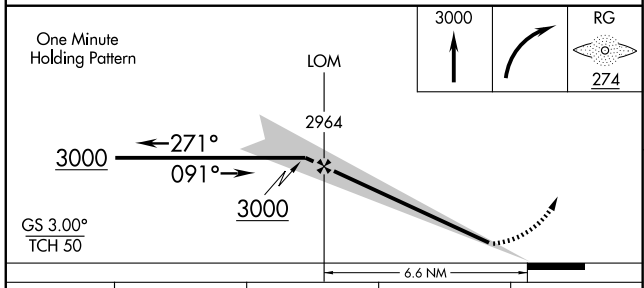
NA

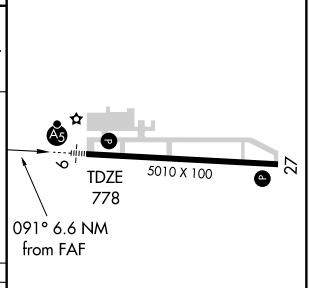
MALSR

MISSED APPROACH: Climb to 3000 then right turn direct REGUE LOM and hold.

AWOS-3	MINNEAPOLIS APP CON	UNICOM
119.25	121.2 357.4	123.05 (CTAF) L







CATEGORY	A	B	C	D
S-ILS 9	978-½ 200 (200-½)			
S-LOC 9	1380-½ 602 (600-½)		1380-1¼ 602 (600-1¼)	1380-1½ 602 (600-1½)
CIRCLING	1480-1 700 (700-1)	1520-1 740 (800-1)	1540-2¼ 760 (800-2¼)	1540-2½ 760 (800-2½)

REIL Rwy 27 L
HIRL Rwy 9-27 L

FAF to MAP 6.6 NM					
Knots	60	90	120	150	180
Min:Sec	6:36	4:24	3:18	2:38	2:12

NC-1. 08 APR 2010 to 06 MAY 2010

RED WING, MINNESOTA

AL-6662 (FAA)

RNAV (GPS) RWY 9

RED WING RGNL (RGK)

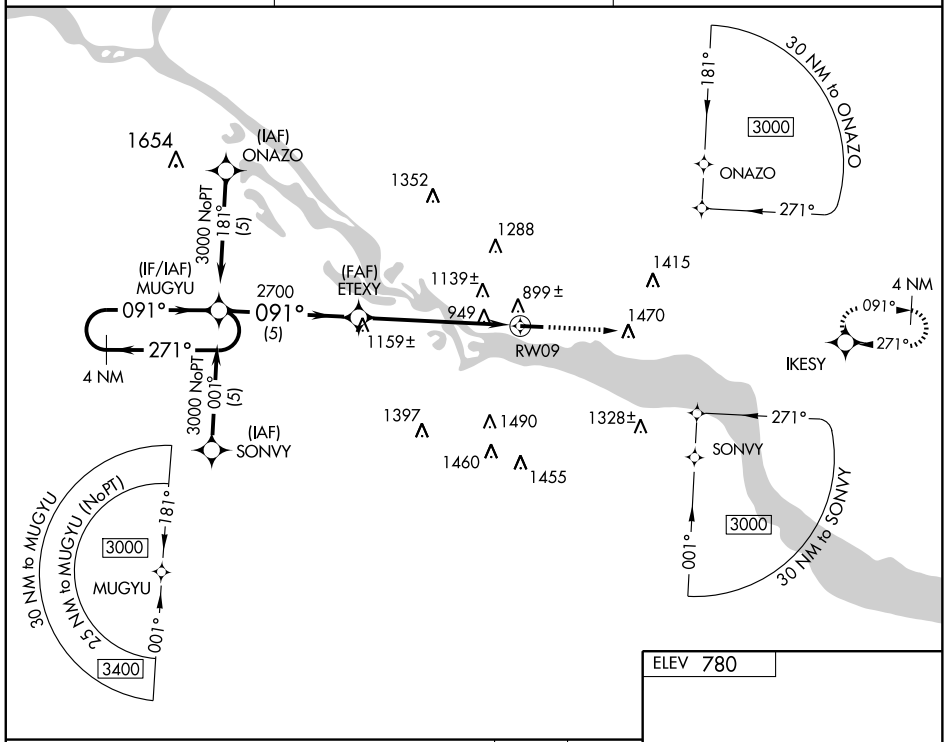
APP CRS	Rwy ldg	5010
091°	TDZE	778
	Apt Elev	780

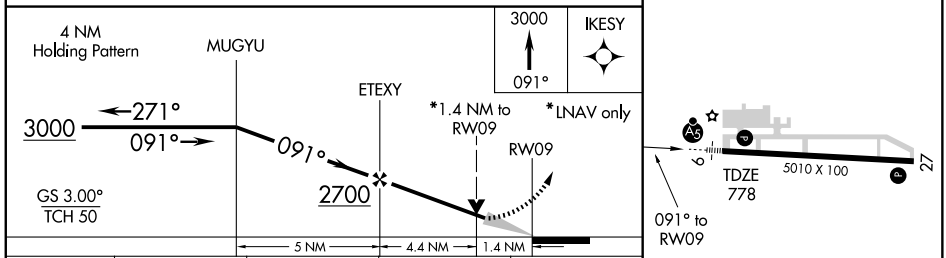
Baro VNAV NA below -16°C (4°F).
NA GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

MALSR

MISSED APPROACH: Climb to 3000 via course 091° to IKESY WP and hold.

AWOS-3	MINNEAPOLIS APP CON	UNICOM
119.25	121.2 357.4	123.05 (CTAF) L





CATEGORY	A	B	C	D
GLS PA DA	NA			
LNAV/VNAV DA	1160-¾ 382 (400-¾)			NA
LNAV MDA	1260-½ 482 (500-½)		1260-¾ 482 (500-¾)	NA
CIRCLING	1480-1¼ 700 (700-1¼)	1520-1¼ 740 (800-1¼)	1540-2¼ 760 (800-2¼)	NA

REIL Rwy 27 L
HIRL Rwy 9-27 L

NC-1. 08 APR 2010 to 06 MAY 2010

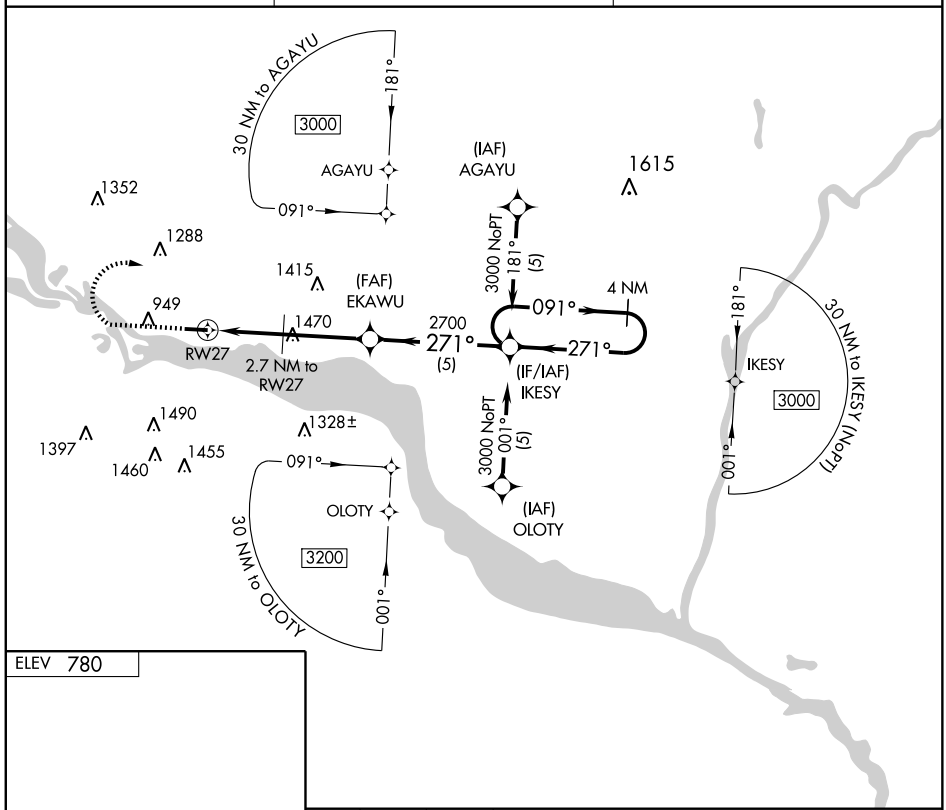
APP CRS	Rwy ldg	5010
271°	TDZE	778
	Apt Elev	780

RNAV (GPS) RWY 27
RED WING RGNL (RGK)

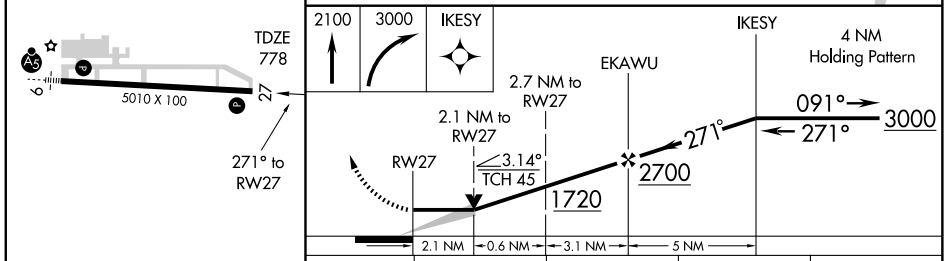
GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 2100, then climbing right turn to 3000 direct IKESY WP and hold.

AWOS-3	MINNEAPOLIS APP CON	UNICOM
119.25	121.2 357.4	123.05 (CTAF) L



ELEV 780



CATEGORY	A	B	C	D
LNAV MDA	1520-1 742 (800-1)		1520-2¼ 742 (800-2¼)	NA
CIRCLING	1520-1 740 (800-1)		1540-2¼ 760 (800-2¼)	NA

REIL Rwy 27 L
HIRL Rwy 9-27 L

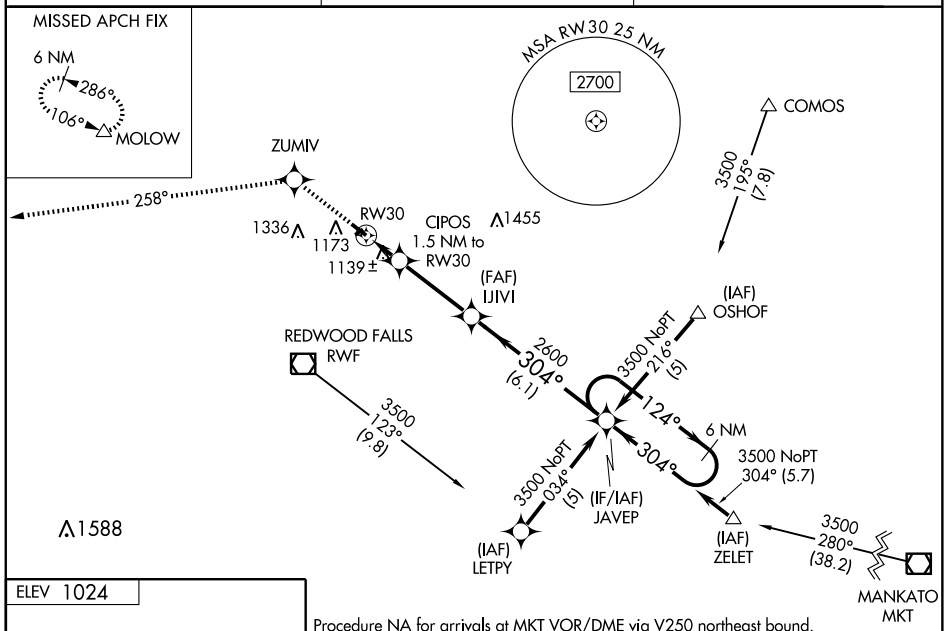
WAAS CH **86610** **W30A**	APP CRS **304°**	Rwy ldg **4001** TDZE **1024** Apt Elev **1024**

RNAV (GPS) RWY 30
REDWOOD FALLS MUNI (RWF)

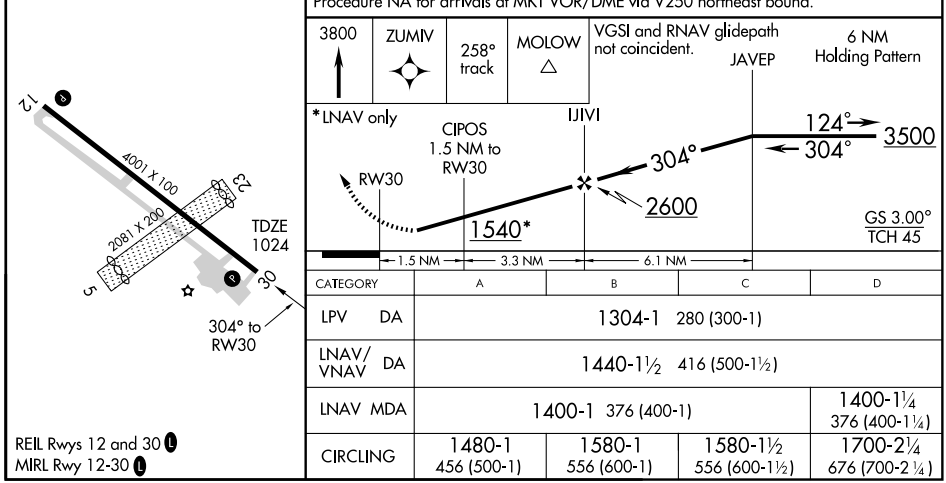
DME/DME RNP -0.3 NA. Visibility reduction by helicopters NA.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F).
Baro-VNAV NA when using Olivia Rgnl altimeter setting.
When local altimeter setting not received, use Olivia Rgnl altimeter setting and increase all DA/MDA 40 feet and LNAV Cat C visibility ¼ mile.

MISSED APPROACH: Climb to 3800 direct ZUMIV and via 258° track to MOLOW and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
126.575	**127.1 290.2**	**123.0** (CTAF) L



Procedure NA for arrivals at MKT VOR/DME via V250 northeast bound.



CATEGORY	A	B	C	D
LPV DA	1304-1 280 (300-1)			
LNAV/VNAV DA	1440-1½ 416 (500-1½)			
LNAV MDA	1400-1 376 (400-1)			1400-1¼ 376 (400-1¼)
CIRCLING	1480-1 456 (500-1)	1580-1 556 (600-1)	1580-1½ 556 (600-1½)	1700-2¼ 676 (700-2¼)

REIL Rwys 12 and 30 L
MIRL Rwy 12-30 L

NC-1. 08 APR 2010 to 06 MAY 2010

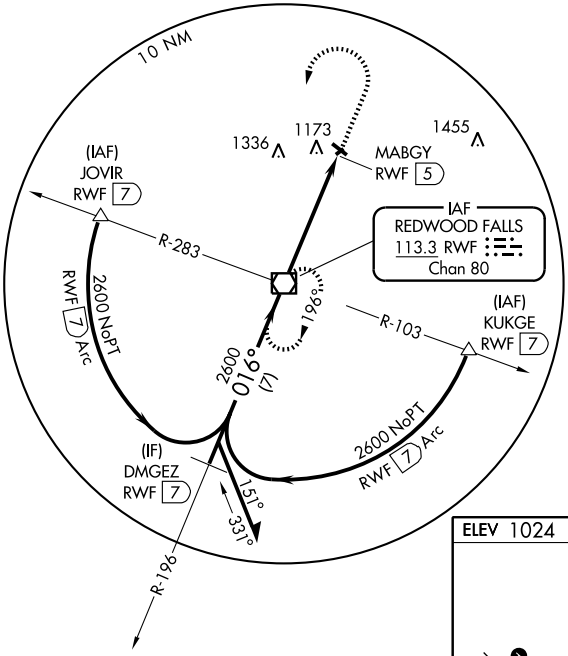
VOR/DME RWF	APP CRS	Rwy ldg	N/A
113.3	016°	TDZE	N/A
Chan 80		Apt Elev	1024

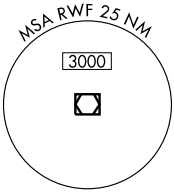
VOR-A
REDWOOD FALLS MUNI (RWF)

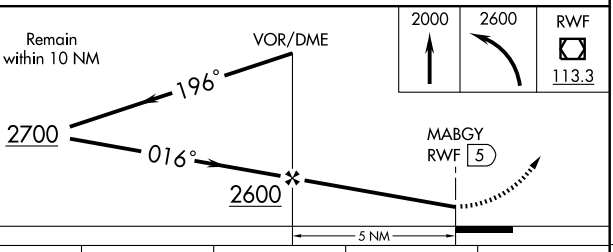
When local altimeter setting not received, use Olivia Rgnl altimeter setting and increase all MDA 40 feet.

MISSED APPROACH: Climb to 2000 then climbing left turn to 2600 direct RWF VOR/DME and hold.

ASOS	MINNEAPOLIS CENTER	UNICOM
126.575	127.1 290.2	123.0 (CTAF) L



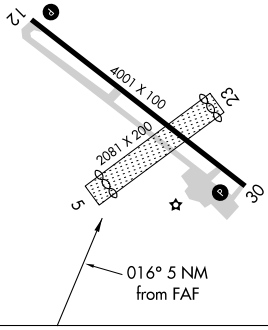




ELEV 1024

MIRL Rwy 12-30 L

REIL Rwys 12 and 30 L



CATEGORY	A	B	C	D
CIRCLING	1540-1 516 (600-1)	1580-1 556 (600-1)	1580-1½ 556 (600-1½)	1700-2¼ 676 (700-2¼)

FAF to MAP 5 NM

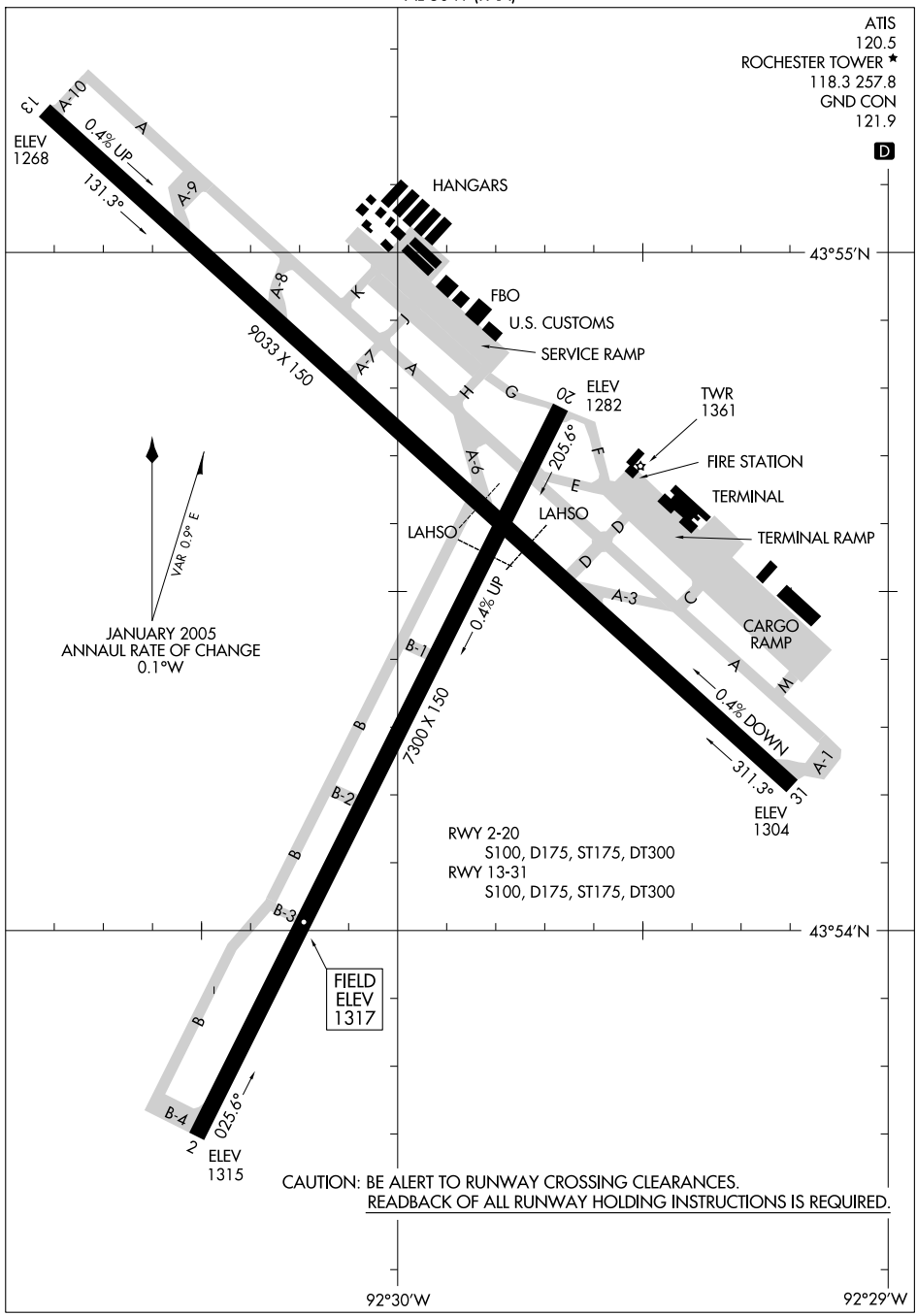
Knots	60	90	120	150	180
Min:Sec	5:00	3:20	2:30	2:00	1:40

NC-1. 08 APR 2010 to 06 MAY 2010

AIRPORT DIAGRAM

AL-5041 (FAA)

ROCHESTER INTL (RST)
ROCHESTER, MINNESOTA



NC-1, 08 APR 2010 to 06 MAY 2010

LOC I-RST	APP CRS	Rwy ldg	9033
108.5	311°	TDZE	1304
		Apt Elev	1317

COPTER ILS or LOC RWY 31

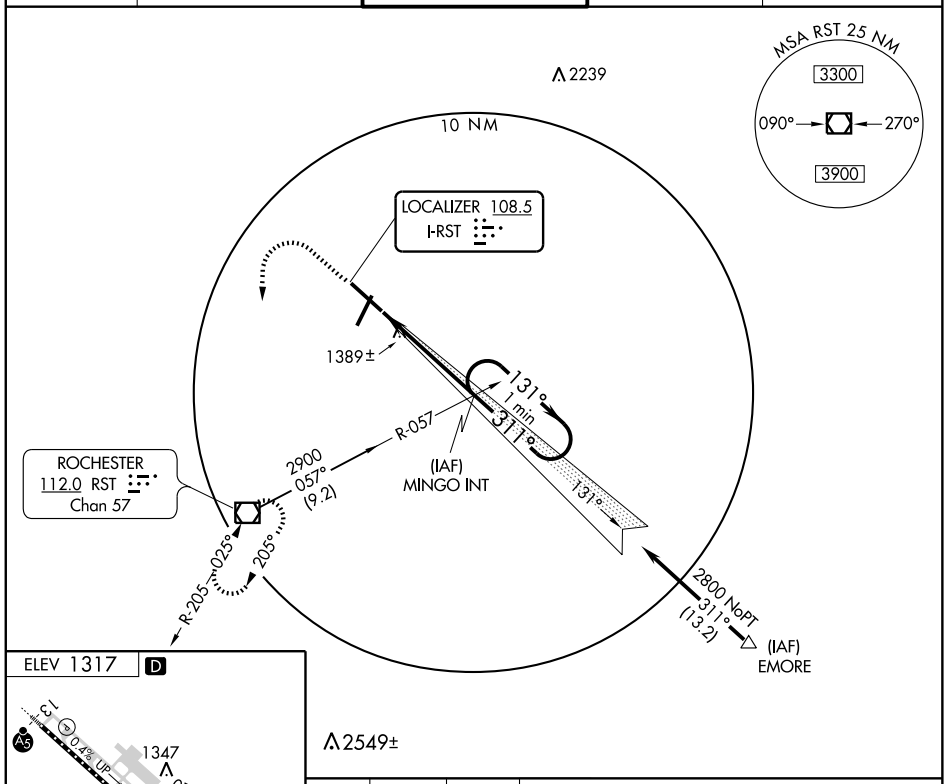
ROCHESTER INTL (RST)

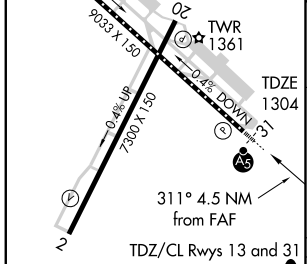
ASR: For inoperative MALSR, increase visibility to RVR 2400.

MALSR

MISSED APPROACH: Climb to 2000 then climbing left turn to 3000 direct RST VOR/DME and hold.

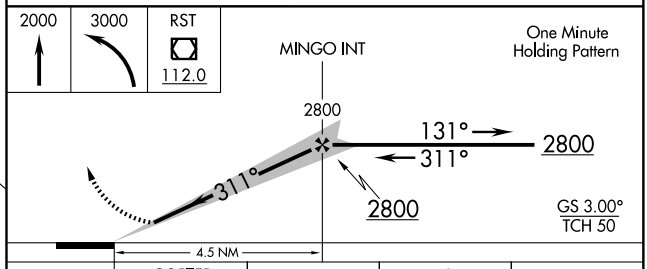
ATIS	ROCHESTER APP CON★	ROCHESTER TOWER★	GND CON	UNICOM
120.5	119.8 251.125	118.3 (CTAF) L 257.8	121.9	122.95





TDZ/CL Rwys 13 and 31
HIRL Rwy 13-31 L
MIRL Rwy 2-20 L
REIL Rwys 2 and 20

FAF to MAP 4.5 NM				
Knots	45	60	75	90	105
Min:Sec	6:00	4:30	3:36	3:00	2:34



CATEGORY	COPTER	B	C	D
S-ILS 31	1504/16 200 (200-¼)	NA		
S-LOC 31	1660/16 356 (400-¼)	NA		
CIRCLING	NA			

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-MNK	APP CRS	Rwy ldg	9033
109.1	131°	TDZE	1280
		Apt Elev	1317

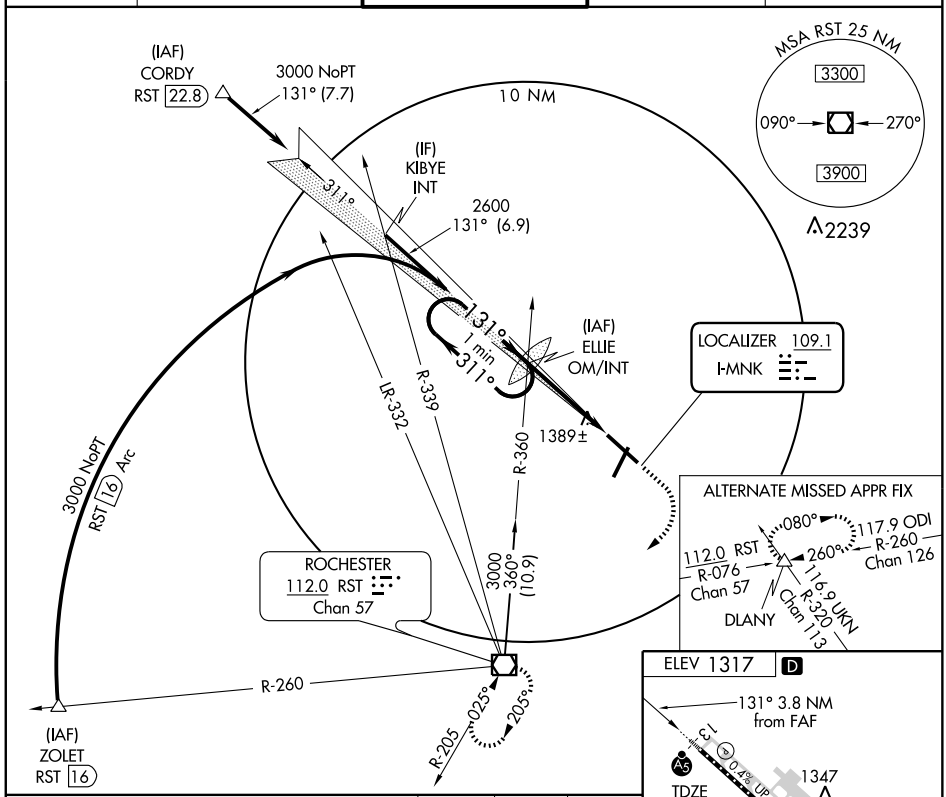
ILS or LOC RWY 13
ROCHESTER INTL (RST)

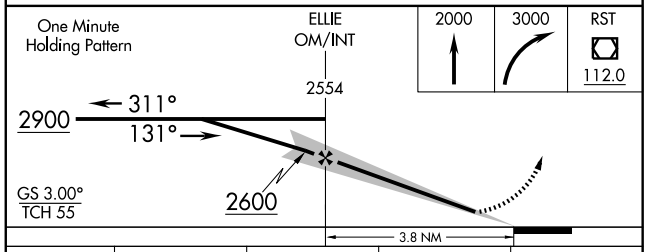
ASR

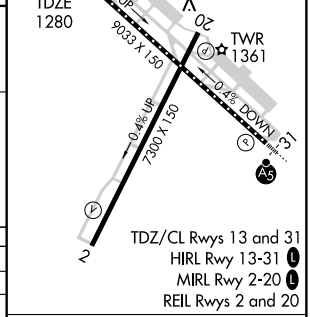
MALSR

MISSED APPROACH: Climb to 2000 then climbing right turn to 3000 direct RST VOR/DME and hold.

ATIS	ROCHESTER APP CON★	ROCHESTER TOWER★	GND CON	UNICOM
120.5	119.8 251.125	118.3 (CTAF) L 257.8	121.9	122.95







CATEGORY	A	B	C	D
S-ILS 13	1480/18 200 (200-½)			
S-LOC 13	1640/24 360 (400-½)			1640/40 360 (400-¾)
CIRCLING	1720-1 403 (500-1)	1780-1 463 (500-1)	1780-1½ 463 (500-1½)	1880-2 563 (600-2)

FAF to MAP 3.8 NM

Knots	60	90	120	150	180
Min:Sec	3:48	2:32	1:54	1:31	1:16

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-RST	APP CRS	Rwy ldg	9033
108.5	311°	TDZE	1304
		Apt Elev	1317

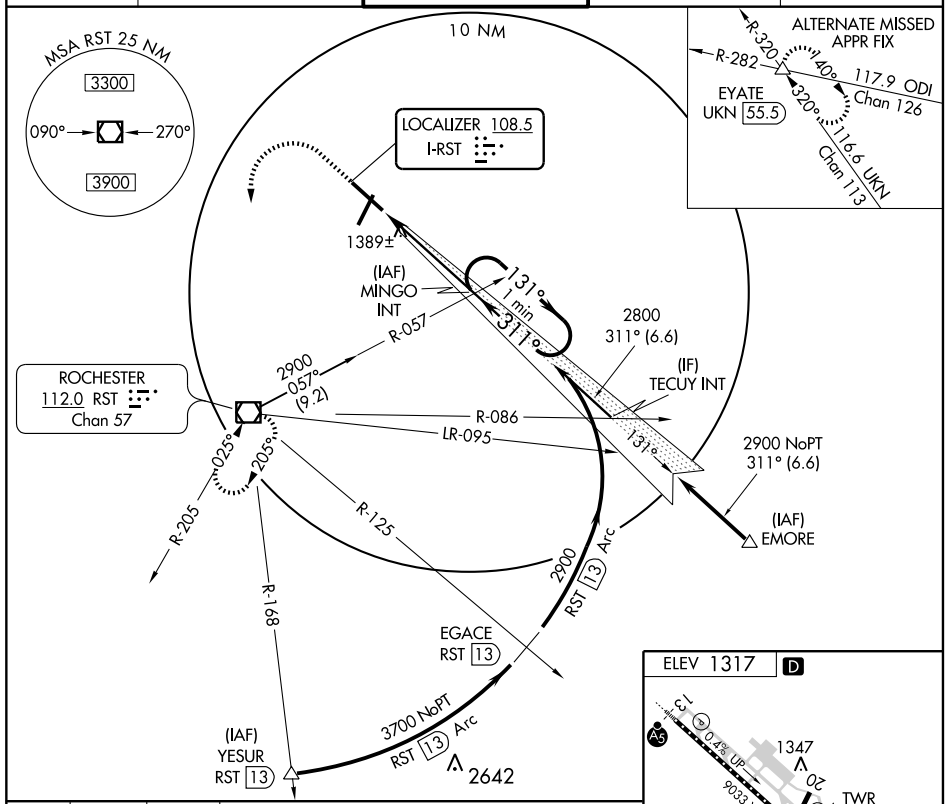
ILS or LOC RWY 31
ROCHESTER INTL (RST)

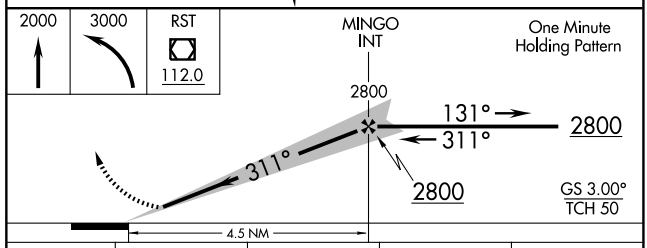
ASR: Autopilot coupled approach not authorized below 1542 MSL.

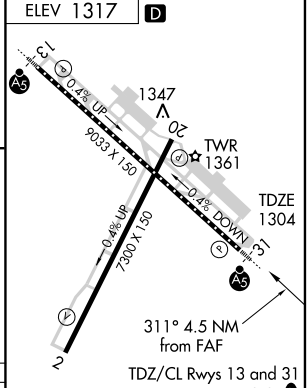
MALSR

MISSED APPROACH: Climb to 2000 then climbing left turn to 3000 direct RST VOR/DME and hold.

ATIS	ROCHESTER APP CON ★	ROCHESTER TOWER ★	GND CON	UNICOM
120.5	119.8 251.125	118.3 (CTAF) L 257.8	121.9	122.95







TDZ/CL Rwys 13 and 31
HIRL Rwy 13-31 L
MIRL Rwy 2-20 L
REIL Rwys 2 and 20

CATEGORY	A	B	C	D
S-ILS 31	1504/18 200 (200-½)			
S-LOC 31	1660/24 356 (400-½)			1660/40 356 (400-¾)
CIRCLING	1720-1 403 (500-1)	1780-1 463 (500-1)	1780-1½ 463 (500-1½)	1880-2 563 (600-2)

FAF to MAP 4.5 NM

Knots	60	90	120	150	180
Min:Sec	4:30	3:00	2:15	1:48	1:30

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	7300
025°	TDZE	1317
	Apt Elev	1317

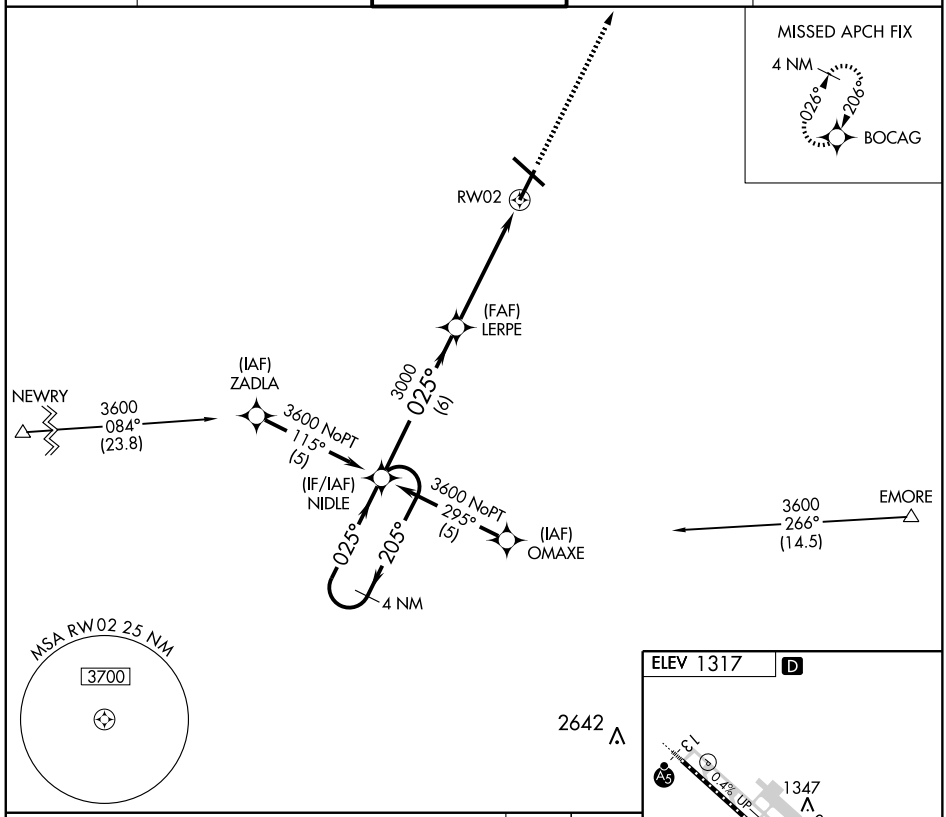
RNAV (GPS) RWY 2
ROCHESTER INTL (RST)

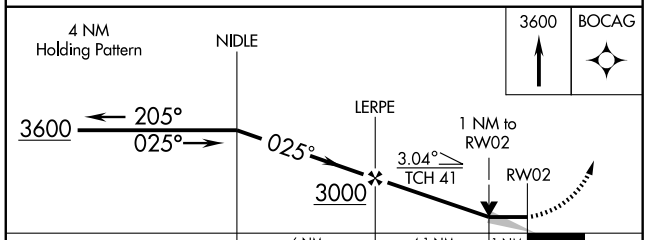
T
A NA
ASR

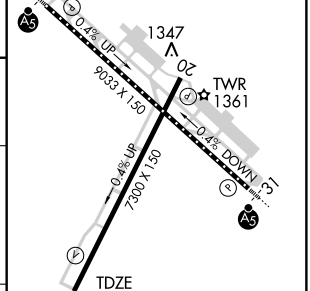
GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 3600 direct BOCAG WP and hold.

ATIS	ROCHESTER APP CON ★	ROCHESTER TOWER ★	GND CON	UNICOM
120.5	119.8 251.125	118.3 (CTAF) L 257.8	121.9	122.95







TDZ/CL Rwys 13 and 31
HIRL Rwy 13-31 L
MIRL Rwy 2-20 L
REIL Rwys 2 and 20

CATEGORY	A	B	C	D
LNAV MDA	1660-1 343 (400-1)			1660-1¼ 343 (400-1¼)
CIRCLING	1720-1 403 (500-1)	1780-1 463 (500-1)	1780-1½ 463 (500-1½)	1880-2 563 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 90202 W13A	APP CRS 131°	Rwy ldg 9033 TDZE 1280 Apt Elev 1317

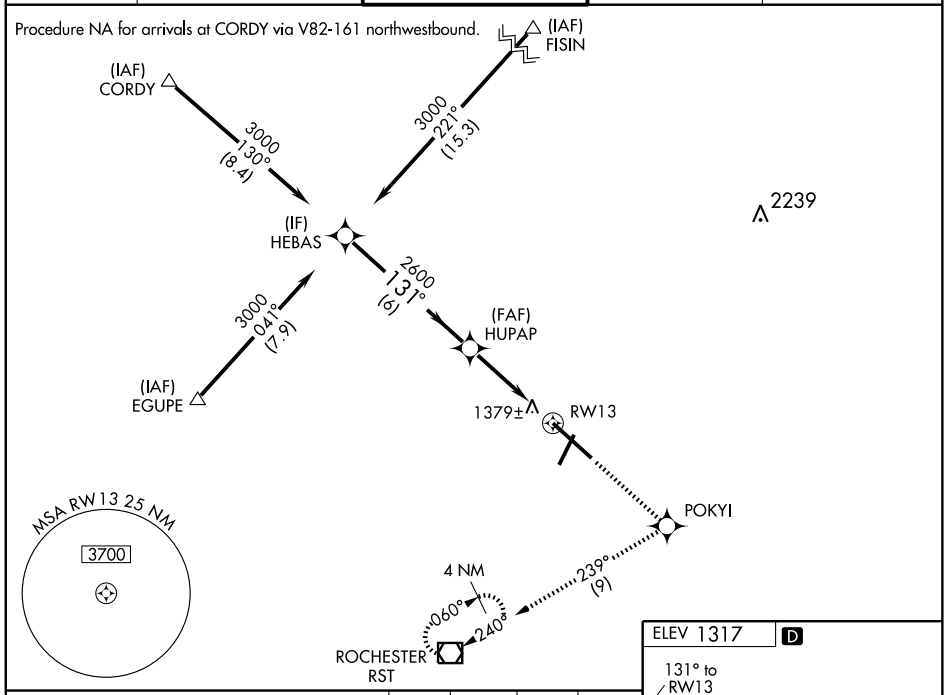
RNAV (GPS) RWY 13
ROCHESTER INTL (RST)

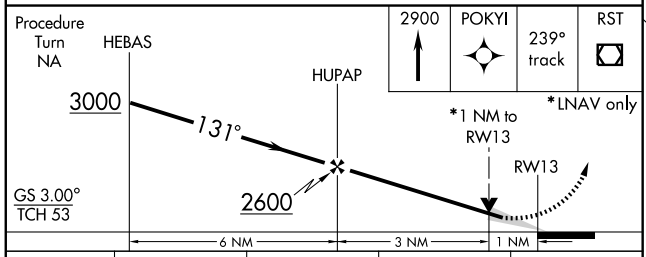
ASR: DME/DME RNP-0.3 NA. For uncompensated Baro-VNAV system, LNAV/VNAV NA below -17°C (2°F) or above 45°C (114°F). For inoperative MALSR increase LPV all Cats visibility to RVR 5000 and LNAV Cat D visibility to RVR 6000.

MALSR A5

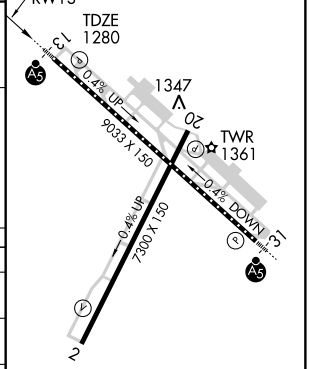
MISSED APPROACH: Climb to 2900 direct POKYI and via 239° track to RST VOR/DME and hold.

ATIS	ROCHESTER APP CON★	ROCHESTER TOWER★	GND CON	UNICOM
120.5	119.8 251.125	118.3 (CTAF) L 257.8	121.9	122.95





CATEGORY	A	B	C	D
LPV DA	1530/24 250 (300-½)			
LNAV/VNAV DA	1679/50 399 (400-1)			
LNAV MDA	1640/24 360 (400-½)			1640/50 360 (400-1)
CIRCLING	1720-1½ 403 (500-1½)	1780-1½ 463 (500-1½)		1880-2 563 (600-2)



TDZ/CL Rwys 13 and 31
HIRL Rwy 13-31 L
MIRL Rwy 2-20 L
REIL Rwys 2 and 20

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	7300
206°	TDZE	1304
	Apt Elev	1317

RNAV (GPS) RWY 20
ROCHESTER INTL (RST)

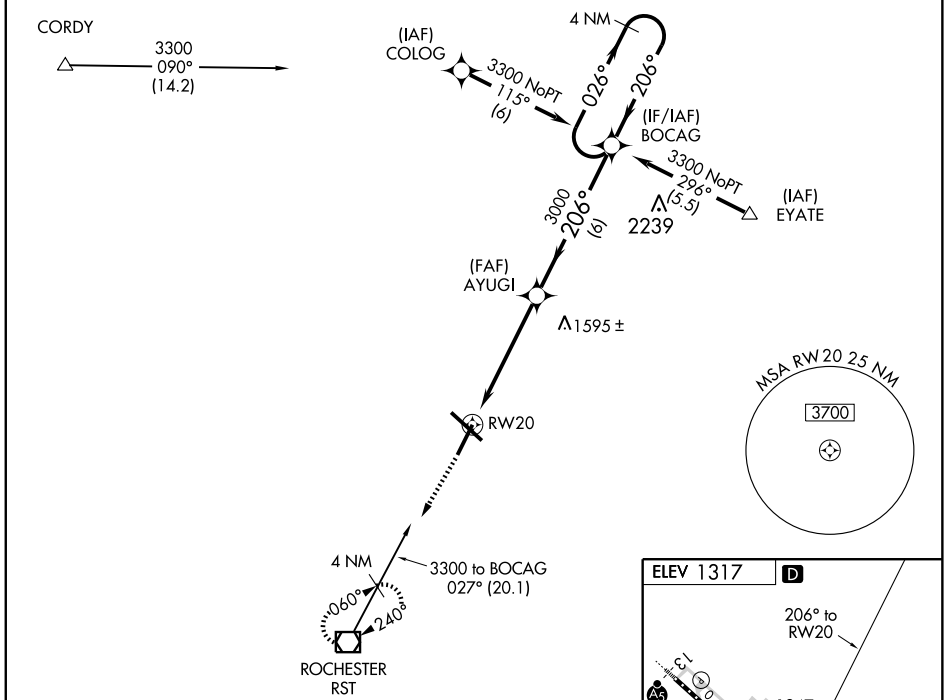
T NA ASR

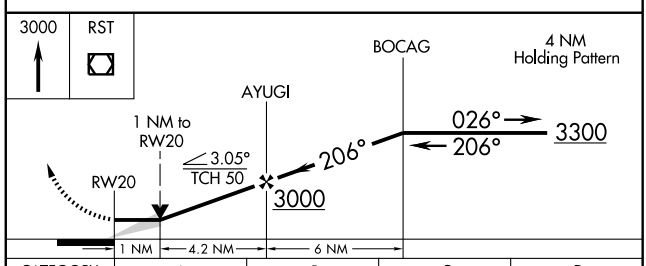
GPS or RNP-0.3 required. DME/DME RNP-0.3 NA.

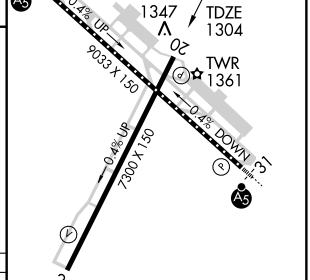
MISSED APPROACH: Climb to 3000 direct RST VOR/DME and hold.

ATIS	ROCHESTER APP CON ★	ROCHESTER TOWER ★	GND CON	UNICOM
120.5	119.8 251.125	118.3 (CTAF) L 257.8	121.9	122.95

Procedure NA for arrivals at EYATE via V218 southeastbound.







CATEGORY	A	B	C	D
LNAV MDA	1660-1 356 (400-1)			1660-1¼ 356 (400-1¼)
CIRCLING	1720-1 403 (500-1)	1780-1 463 (500-1)	1780-1½ 463 (500-1½)	1880-2 563 (600-2)

TDZ/CL Rwys 13 and 31
HIRL Rwy 13-31 L
MIRL Rwy 2-20 L
REIL Rwys 2 and 20

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	9033
311°	TDZE	1304
	Apt Elev	1317

RNAV (GPS) RWY 31
ROCHESTER INTL (RST)

T A NA ASR — Baro-VNAV NA below -17°C (2°F). GPS or RNP-0.3 required. DME/DME RNP-0.3 NA. For inoperative MALSR increase LNAV/VNAV Cat. D visibility to RVR 5000 and increase LNAV Cat. D visibility to RVR 6000.

MALSR A5

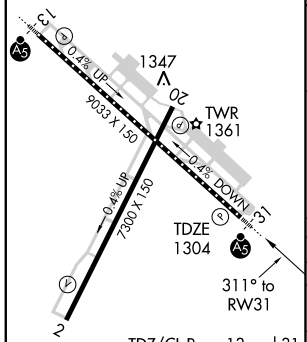
MISSED APPROACH: Climb to 3000 direct UTAKE WP and via 311° track to CORDY WP and hold.

ATIS	ROCHESTER APP CON★	ROCHESTER TOWER★	GND CON	UNICOM
120.5	119.8 251.125	118.3 (CTAF) L 257.8	121.9	122.95

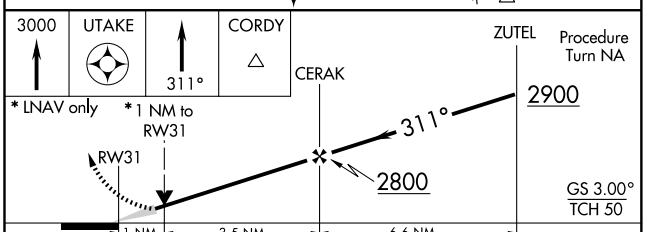
Procedure NA for arrival at EMORE on V24 eastbound.
Procedure NA for arrival at DLANY on V82-170 eastbound.

153°
333°
4 NM
CORDY
311° (14.6)
2239
UTAKE
RW31
MSA RW31 25 NM
3700
(FAF) CERAK
2800 311° (6.6)
(IAF) DLANY
2900 247° (10.3)
(IF) ZUTEL
2900 041° (7)
2900 311° (6.6)
(IAF) YUCUS
(IAF) EMORE

ELEV 1317 D



TDZ/CL Rwys 13 and 31
HIRL Rwy 13-31 L
MIRL Rwy 2-20 L
REIL Rwys 2 and 20



CATEGORY	A	B	C	D
GLS PA DA	NA			
LNAV/VNAV MDA	1620/24 316 (400-½)			1620/40 316 (400-¾)
LNAV MDA	1680/24 376 (400-½)			1680/50 376 (400-1)
CIRCLING	1720-1 403 (500-1)	1780-1 463 (500-1)	1780-1½ 463 (500-1½)	1880-2 563 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

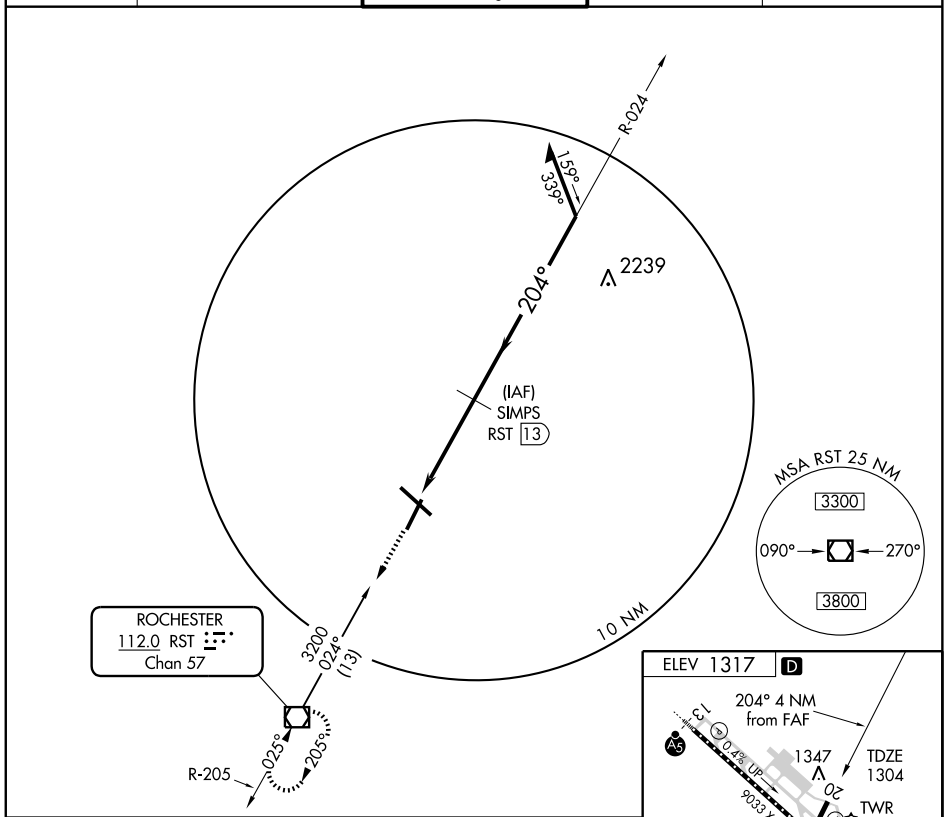
VOR/DME RST	APP CRS	Rwy ldg	7300
112.0	204°	TDZE	1304
Chan 57		Apt Elev	1317

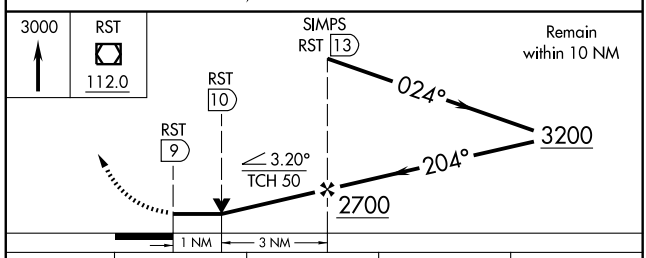
VOR/DME RWY 20
ROCHESTER INTL (RST)

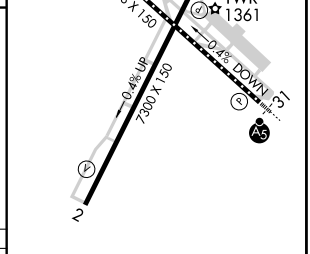
T
ASR

MISSED APPROACH: Climb to 3000 direct RST VOR/DME and hold.

ATIS	ROCHESTER APP CON★	ROCHESTER TOWER★	GND CON	UNICOM
120.5	119.8 251.125	118.3 (CTAF) L 257.8	121.9	122.95







CATEGORY	A	B	C	D
S-20	1660-1 356 (400-1)			1660-1¼ 356 (400-1¼)
CIRCLING	1720-1 403 (500-1)	1780-1 463 (500-1)	1780-1½ 463 (500-1½)	1880-2 563 (600-2)

TDZ/CL Rwys 13 and 31
HIRL Rwy 13-31 L
MIRL Rwy 2-20 L
REIL Rwys 2 and 20

NC-1. 08 APR 2010 to 06 MAY 2010

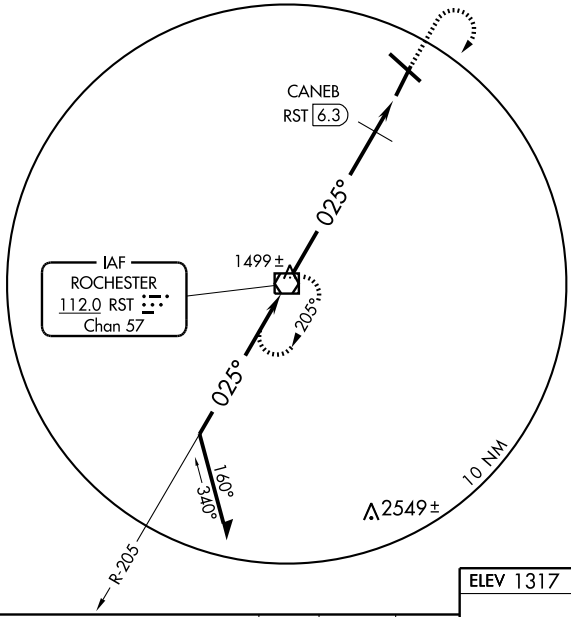
VOR/DME RST	APP CRS	Rwy ldg	7300
112.0	025°	TDZE	1317
Chan 57		Apt Elev	1317

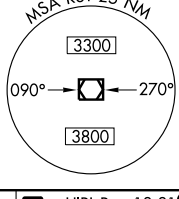
VOR RWY 2
ROCHESTER INTL (RST)

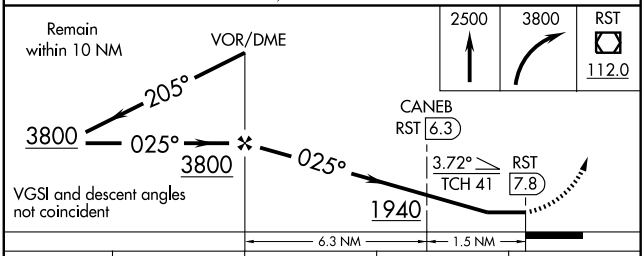
ASR

MISSED APPROACH: Climb to 2500 then climbing right turn to 3800 direct RST VOR/DME and hold.

ATIS	ROCHESTER APP CON ★	ROCHESTER TOWER ★	GND CON	UNICOM
120.5	119.8 251.125	118.3 (CTAF) L 257.8	121.9	122.95



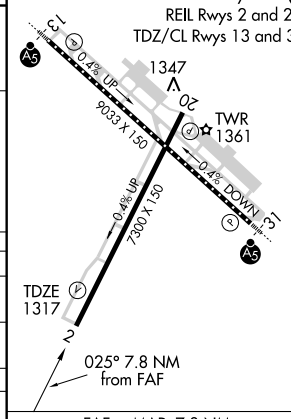




CATEGORY	A	B	C	D
S-2	1940-1 623 (700-1)		1940-1¾ 623 (700-1¾)	1940-2 623 (700-2)
CIRCLING	1940-1 623 (700-1)		1940-1¾ 623 (700-1¾)	1940-2 623 (700-2)
DME MINIMUMS				
S-2	1680-1 363 (400-1)			NA
CIRCLING	1720-1 403 (500-1)	1780-1 463 (500-1)	1780-1½ 463 (500-1½)	1880-2 563 (600-2)

ELEV 1317 D

HIRL Rwy 13-31 L
MIRL Rwy 2-20 L
REIL Rwys 2 and 20
TDZ/CL Rwys 13 and 31



FAF to MAP 7.8 NM					
Knots	60	90	120	150	180
Min:Sec	7:48	5:12	3:54	3:07	2:36

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 56304 W16A	APP CRS 162°	Rwy ldg 4401 TDZE 1055 Apt Elev 1060

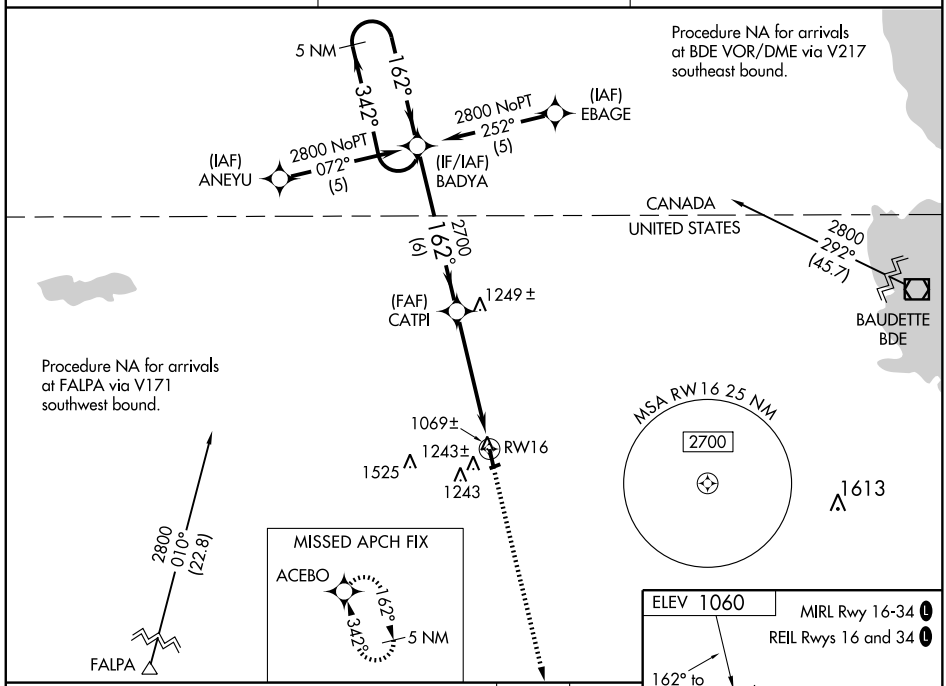
RNAV (GPS) RWY 16
ROSEAU MUNI/RUDY BILLBERG FIELD (ROX)

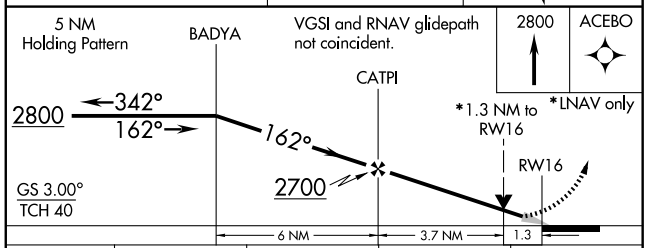
TAW

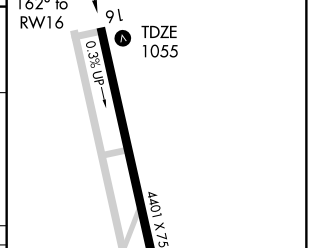
If local altimeter setting not received, use Warroad altimeter setting and increase all DAs 36 feet/MDAs 40 feet.
VDP NA when using Warroad altimeter setting.
Baro-VNAV NA when using Warroad altimeter setting.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 2800 direct ACEBO and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
108.8	134.75 251.1	122.8 (CTAF) L







CATEGORY	A	B	C	D
LPV DA	1305-1 250 (300-1)			
LNAV/VNAV DA	1403-1¼ 348 (400-1¼)			
LNAV MDA	1500-1 445 (500-1)		1500-1¼ 445 (500-1¼)	1500-1½ 445 (500-1½)
CIRCLING	1600-1 540 (600-1)		1600-1½ 540 (600-1½)	1640-2 580 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

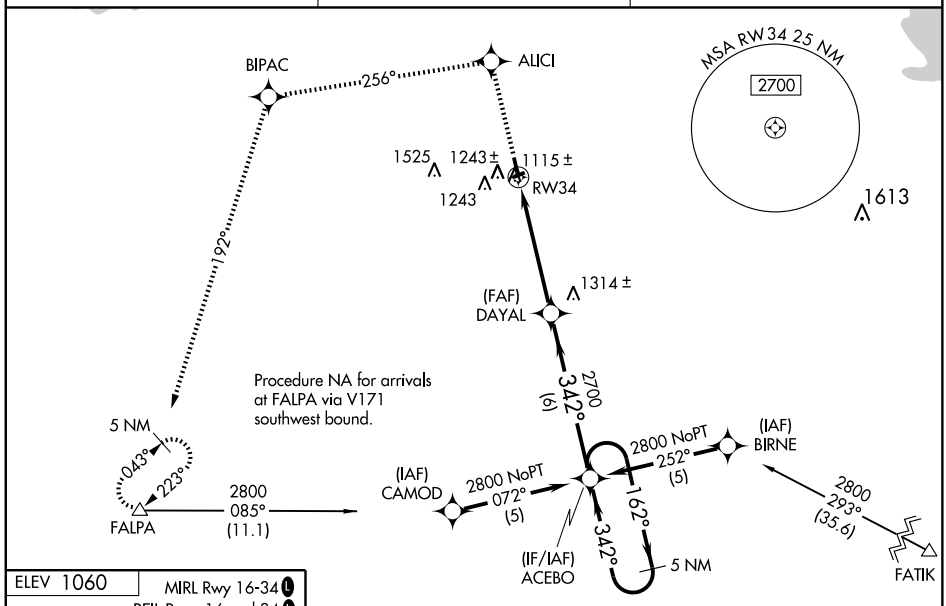
WAAS CH 99404 W34A	APP CRS 342°	Rwy ldg 4401 TDZE 1060 Apt Elev 1060

RNAV (GPS) RWY 34
ROSEAU MUNI/RUDY BILLBERG FIELD (ROX)

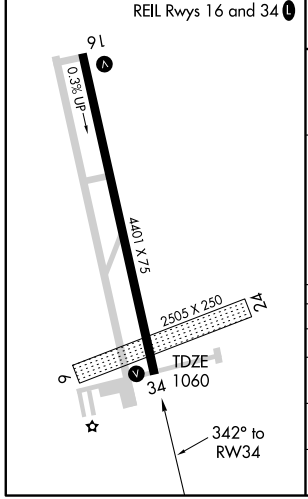
If local altimeter setting not received, use Warroad altimeter setting and increase all DAs 36 feet/MDAs 40 feet.
VDP NA when using Warroad altimeter setting.
Baro-VNAV NA when using Warroad altimeter setting.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F).
Visibility reduction by helicopters NA. DME/DME RNP- 0.3 NA.

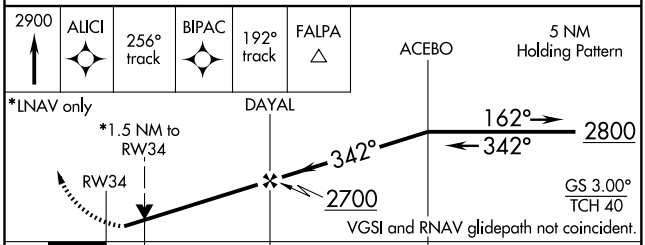
MISSED APPROACH: Climb to 2900 direct ALICI and via 256° track to BIPAC and 192° track to FALPA and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
108.8	134.75 251.1	122.8 (CTAF)



ELEV 1060
MIRL Rwy 16-34
REIL Rwys 16 and 34





CATEGORY	A	B	C	D
LPV DA	1310-1 250 (300-1)			
LNAV/VNAV DA	1485-1½ 425 (500-1½)			
LNAV MDA	1560-1 500 (500-1)		1560-1¼ 500 (500-1¼)	1560-1½ 500 (500-1½)
CIRCLING	1600-1 540 (600-1)		1600-1½ 540 (600-1½)	1640-2 580 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME ROX	APP CRS	Rwy ldg	4401
108.8	156°	TDZE	1055
Chan 25		Apt Elev	1060

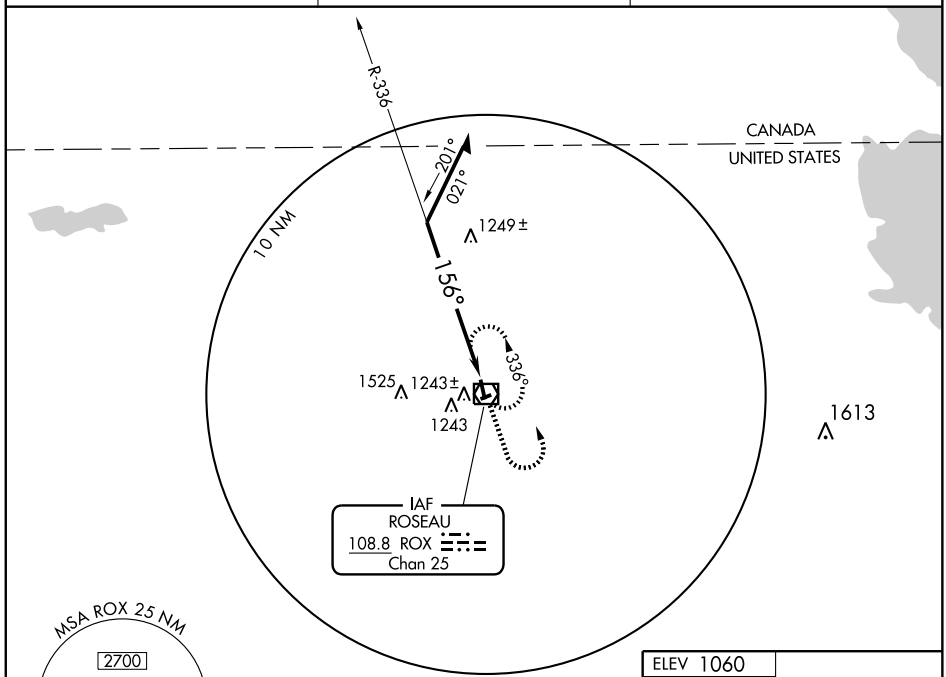
VOR RWY 16

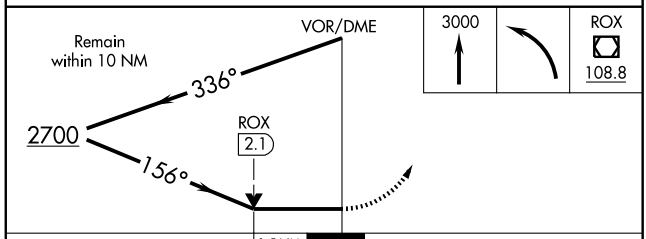
ROSEAU MUNI/RUDY BILLBERG FIELD (ROX)

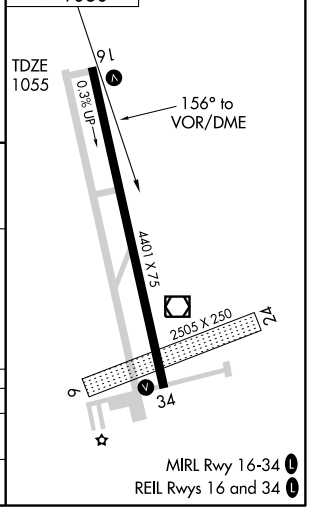
NA — If local altimeter setting not received, use Warroad altimeter setting and increase all MDAs 40 feet. VDP NA when using Warroad altimeter setting.

MISSED APPROACH: Climb to 3000 then left turn direct ROX VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
108.8	134.75 251.1	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-16	1560-1 505 (500-1)		1560-1½ 505 (500-1½)	
CIRCLING	1600-1 540 (600-1)		1600-1½ 540 (600-1½)	1640-2 580 (600-2)

NC-1, 08 APR 2010 to 06 MAY 2010

VOR/DME ROX	APP CRS	Rwy ldg	4401
108.8	349°	TDZE	1060
Chan 25		Apt Elev	1060

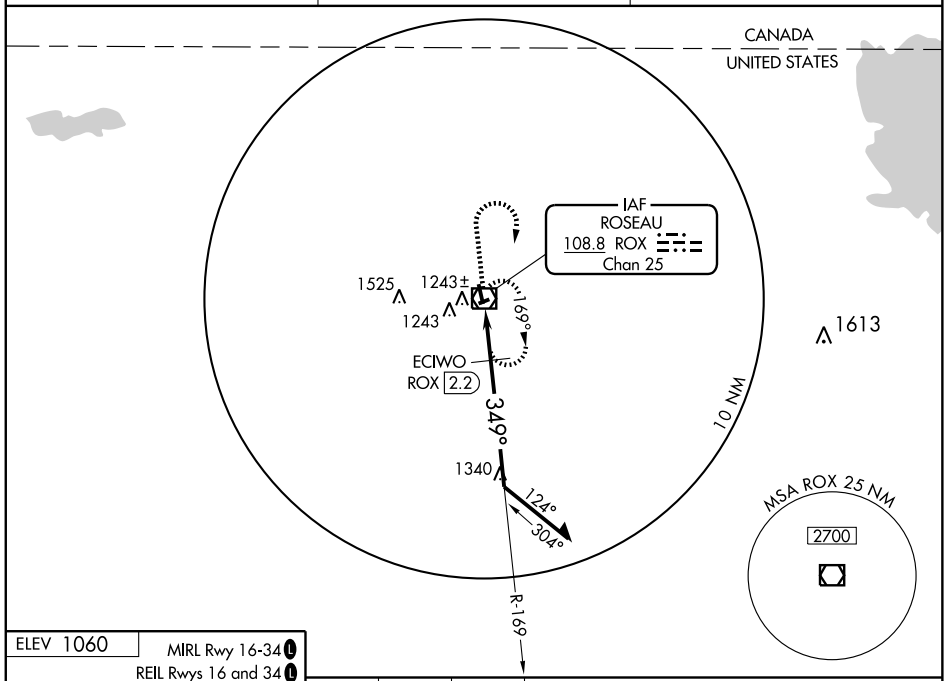
VOR RWY 34

ROSEAU MUNI/RUDY BILLBERG FIELD (ROX)

If local altimeter setting not received, use Warroad altimeter setting and increase all MDAs 40 feet.
VDP NA when using Warroad altimeter setting.
Visibility reduction by helicopters NA.

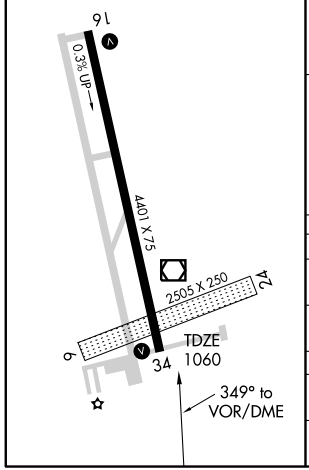
MISSED APPROACH: Climb to 3000 then right turn direct ROX VOR/DME and hold.

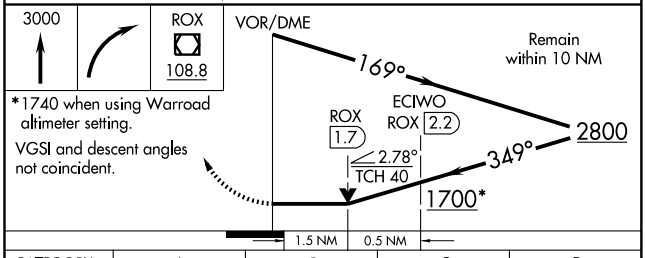
AWOS-3	MINNEAPOLIS CENTER	UNICOM
108.8	134.75 251.1	122.8 (CTAF) L



ELEV 1060

MIRL Rwy 16-34 L
REIL Rwys 16 and 34 L





CATEGORY	A	B	C	D
S-34	1700-1 640 (700-1)		1700-1¾ 640 (700-1¾)	1700-2 640 (700-2)
CIRCLING	1700-1 640 (700-1)		1700-1¾ 640 (700-1¾)	1700-2 640 (700-2)
ECIWO FIX MINIMUMS				
S-34	1560-1 500 (500-1)		1560-1¼ 500 (500-1¼)	1560-1½ 500 (500-1½)
CIRCLING	1600-1 540 (600-1)		1600-1½ 540 (600-1½)	1640-2 580 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

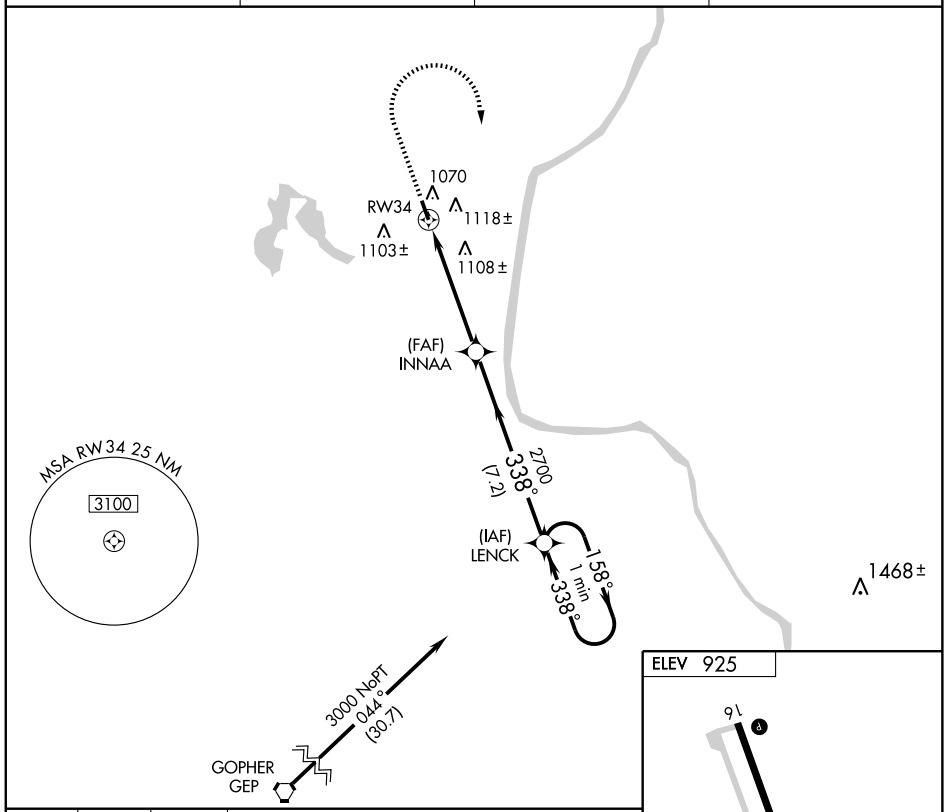
APP CRS	Rwy ldg	4400
338°	TDZE	920
	Apt Elev	925

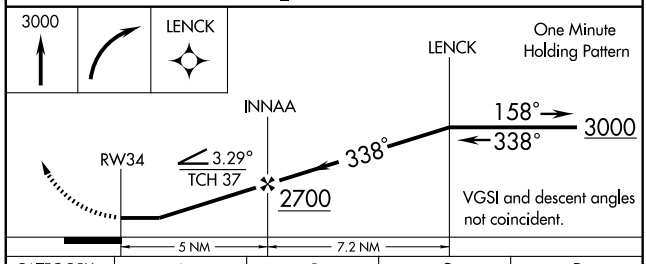
GPS RWY 34
RUSH CITY RGNL (ROS)

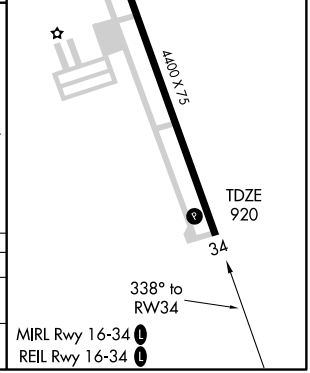
NA

MISSED APPROACH: Climb to 3000, then right turn direct LENCK WP and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	CTAF
282	121.05 397.9	121.725	122.9 L







CATEGORY	A	B	C	D
S-34	1320-1 400 (400-1)			1320-1¼ 400 (400-1¼)
CIRCLING	1420-1 495 (500-1)		1420-1½ 495 (500-1½)	1480-2 555 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

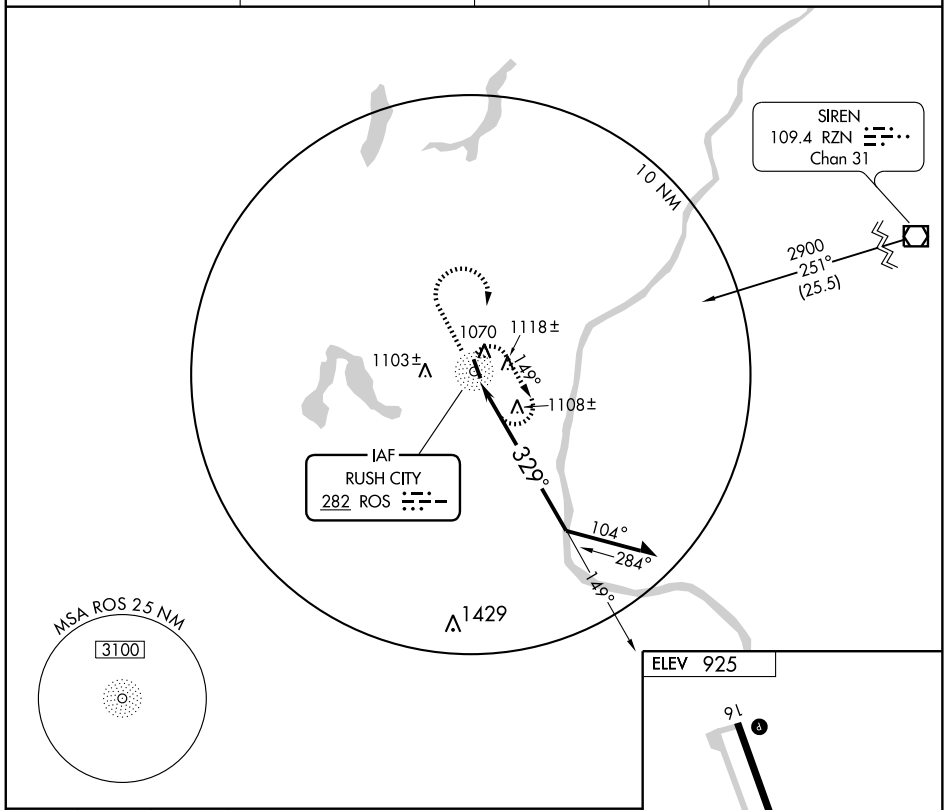
NDB ROS	APP CRS	Rwy ldg	4400
282	329°	TDZE	920
		Apt Elev	925

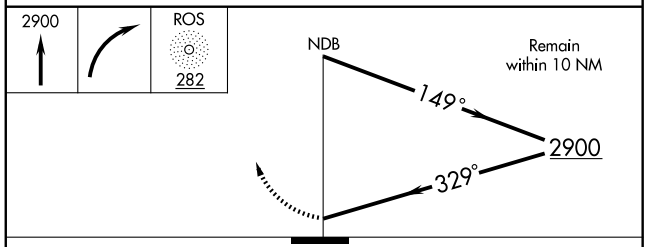
NDB RWY 34
RUSH CITY RGNL (ROS)

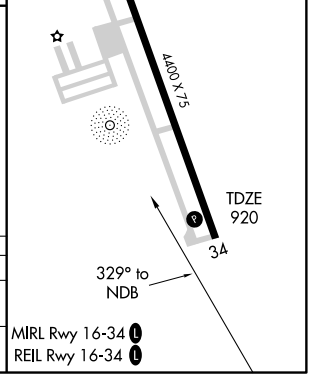
NA

MISSED APPROACH: Climb to 2900, then right turn direct ROS NDB and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	CTAF
282	121.05 397.9	121.725	122.9 L







CATEGORY	A	B	C	D
S-34	1480-1	560 (600-1)	1480-1½ 560 (600-1½)	1480-1¾ 560 (600-1¾)
CIRCLING	1480-1	555 (600-1)	1480-1½ 555 (600-1½)	1480-2 555 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	3200
341°	TDZE	1209
	Apt Elev	1211

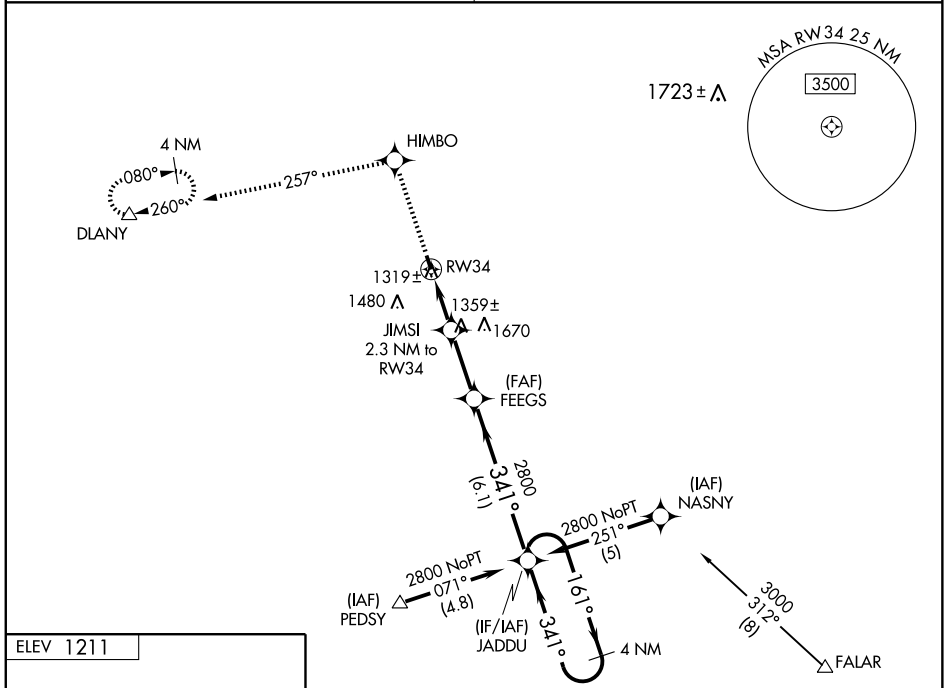
RNAV (GPS) RWY 34
RUSHFORD MUNI (55Y)

DME/DME RNP-0.3 NA
NA
Visibility reduction by helicopters NA.
Use Preston altimeter setting, when not received use Winona altimeter setting and increase all MDA 80 feet.

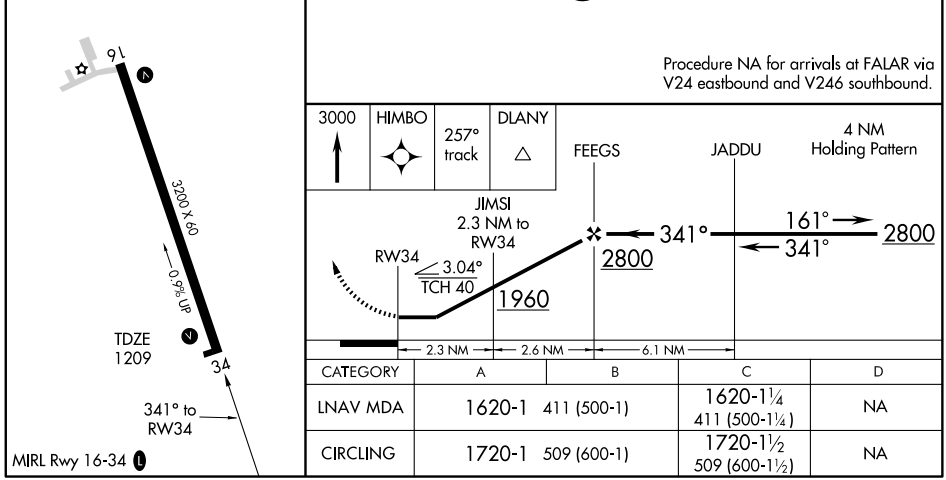
MISSED APPROACH: Climb to 3000 direct HIMBO and via 257° track to DLANY and hold.

ROCHESTER APP CON ★
119.8 251.125

CTAF
122.9 L



Procedure NA for arrivals at FALAR via V24 eastbound and V246 southbound.



CATEGORY	A	B	C	D
LNAV MDA	1620-1 411 (500-1)		1620-1¼ 411 (500-1¼)	NA
CIRCLING	1720-1 509 (600-1)		1720-1½ 509 (600-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

VORTAC ODI 117.9 Chan 126	APP CRS 249°	Rwy ldg N/A TDZE N/A Apt Elev 1211

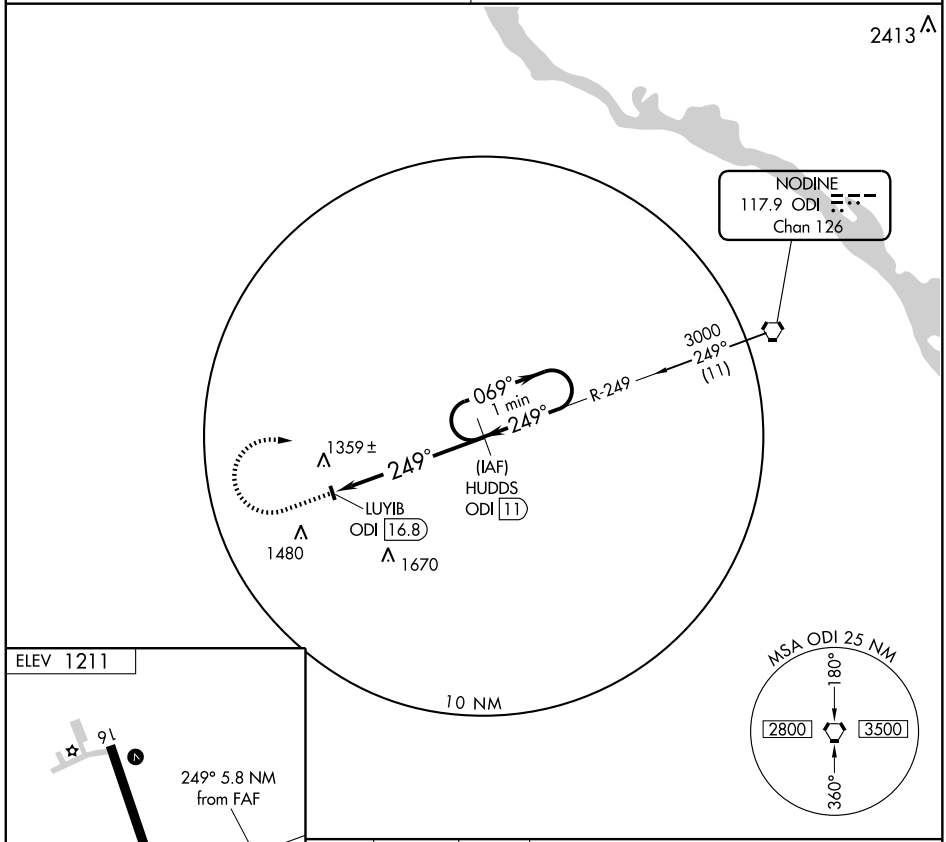
VOR/DME-A
RUSHFORD MUNI (55Y)

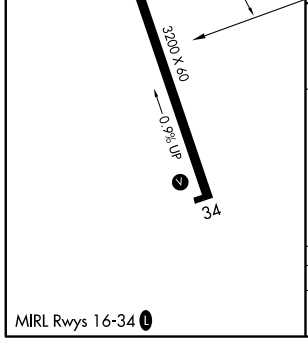
T A NA Use Preston altimeter setting, when not received use Winona altimeter setting and increase all MDA 80 feet.

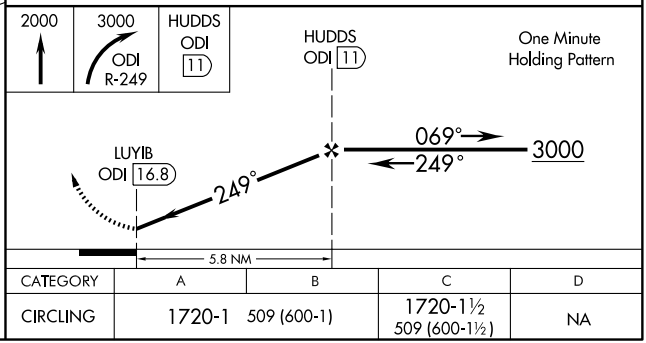
MISSED APPROACH: Climb to 2000, then climbing right turn to 3000 via ODI VORTAC R-249 to HUDDS/ODI 11 DME and hold.

ROCHESTER APP CON * 119.8 251.125

CTAF 122.9 L







CATEGORY	A	B	C	D
CIRCLING	1720-1	509 (600-1)	1720-1½ 509 (600-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

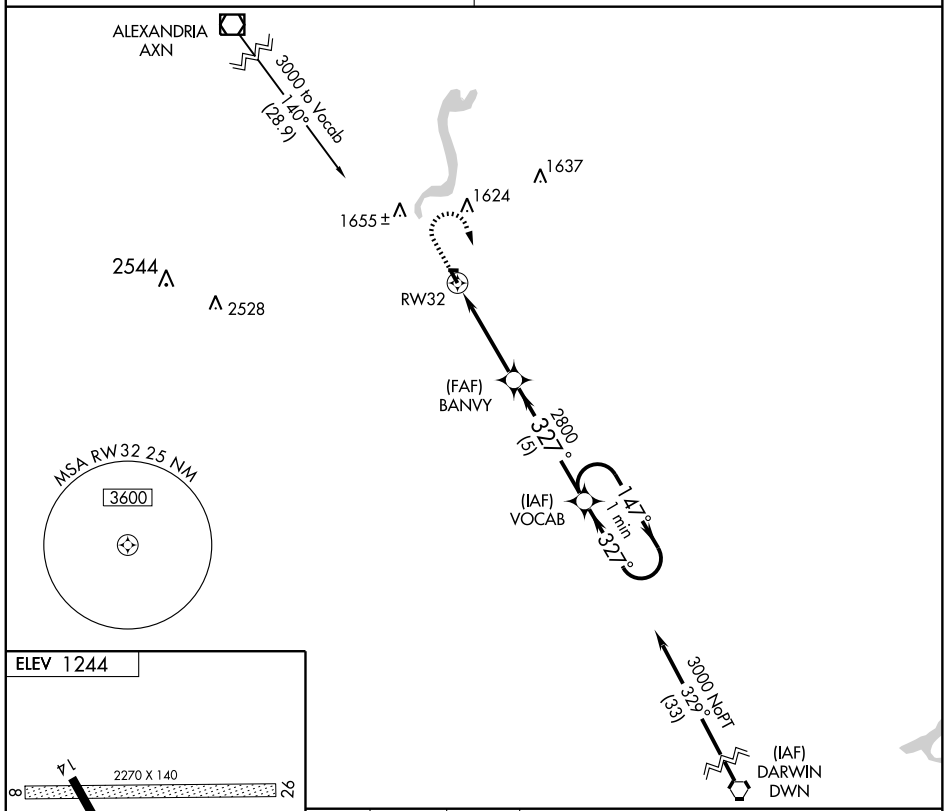
APP CRS	Rwy ldg	3300
327°	TDZE	1234
	Apt Elev	1244

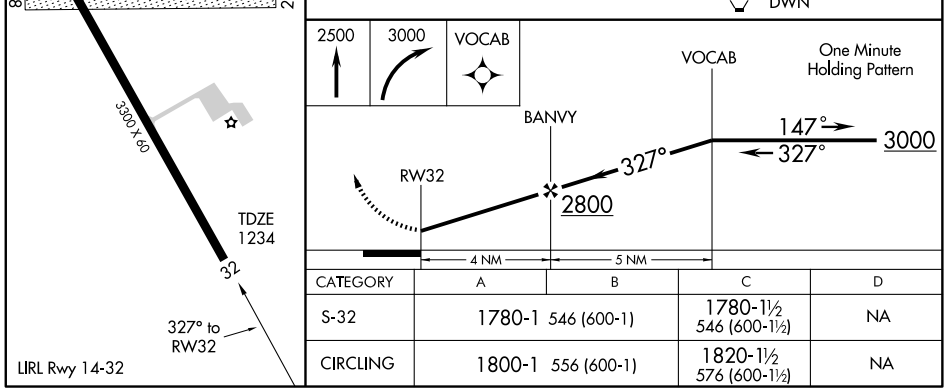
GPS RWY 32
SAUK CENTRE MUNI (D39)

NA
Use Alexandria Chandler Field altimeter setting.

MISSED APPROACH: Climb to 2500 then climbing right turn to 3000 direct VOCAB WP and hold.

MINNEAPOLIS CENTER	CTAF
126.1 269.2	122.9





CATEGORY	A	B	C	D
S-32	1780-1 546 (600-1)		1780-1½ 546 (600-1½)	NA
CIRCLING	1800-1 556 (600-1)		1820-1½ 576 (600-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

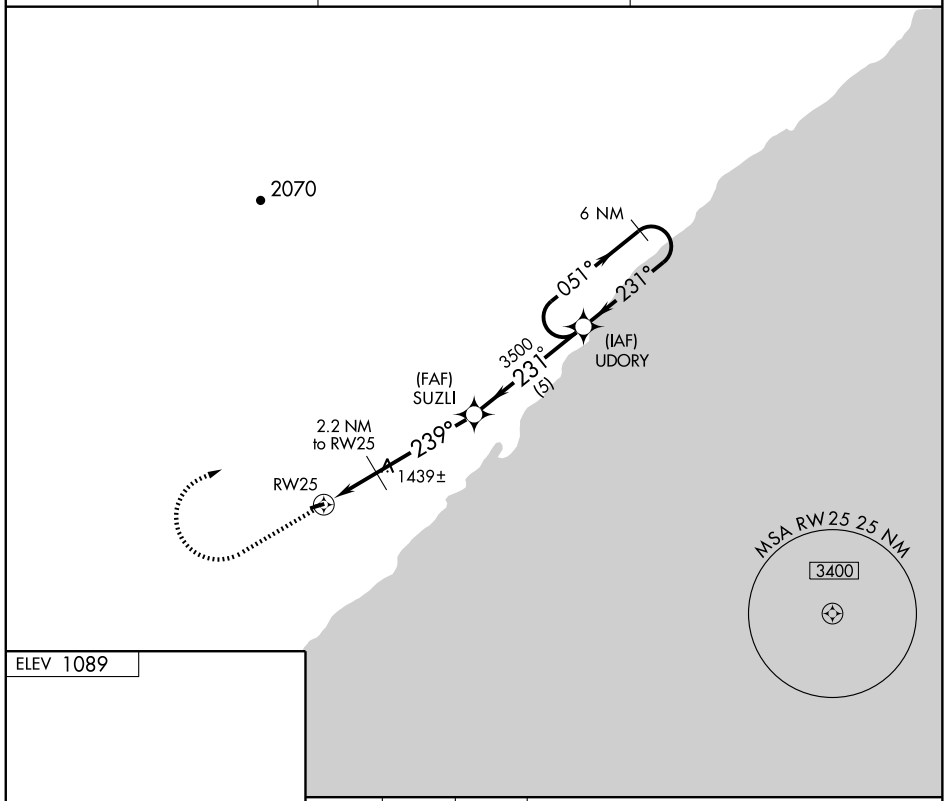
APP CRS	Rwy ldg	3200
239°	TDZE	1089
	Apt Elev	1089

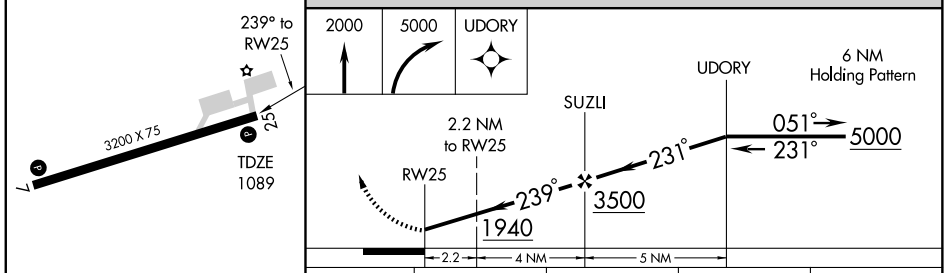
GPS RWY 25
SILVER BAY MUNI (BFW)

NA

MISSED APPROACH: Climb to 2000 then climbing right turn to 5000 direct UDORY WP and hold.

AWOS-3	MINNEAPOLIS CENTER	CTAF
350	134.55 290.5	122.9 L





CATEGORY	A	B	C	D
S-25	1540-1 451 (500-1)		NA	
CIRCLING	1700-1 611 (700-1)	1720-1 631 (700-1)	NA	

REIL Rwy 7 and 25 L
MIRL Rwy 7-25 L

NDB BFW	APP CRS	Rwy ldg	3200
350	264°	TDZE	1089
		Apt Elev	1089

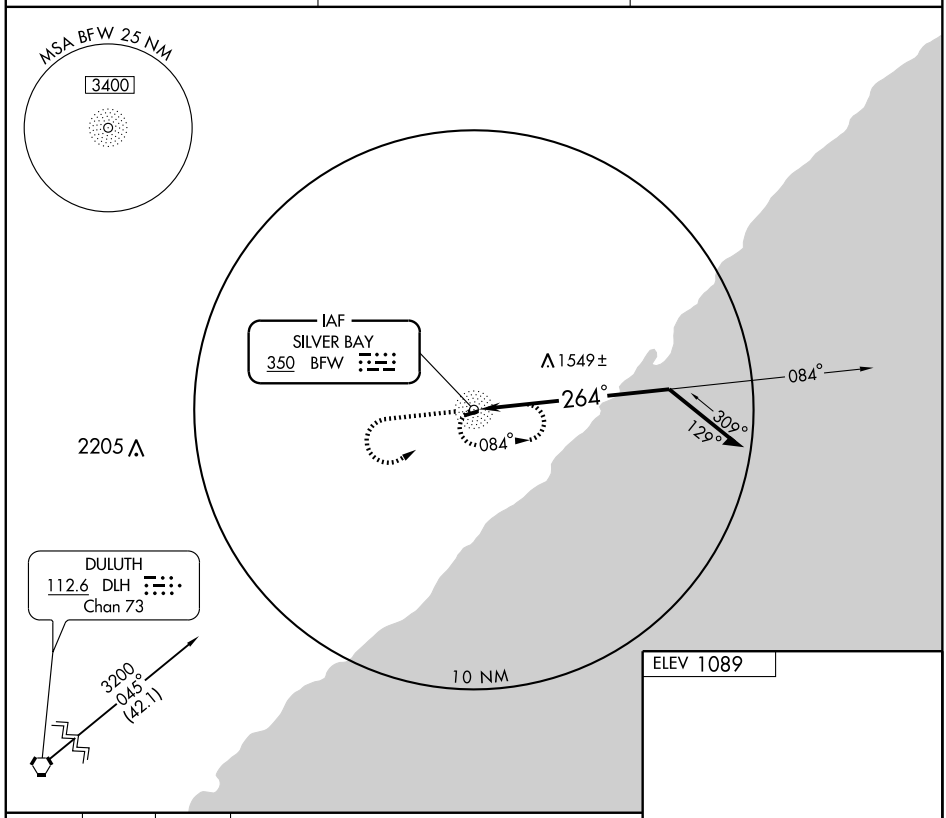
NDB RWY 25

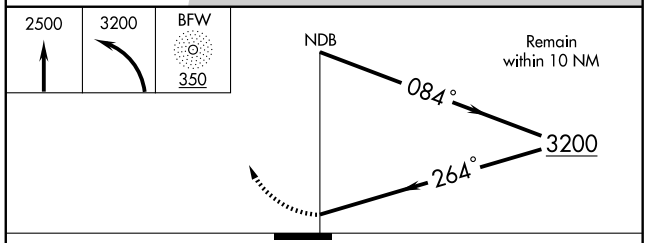
SILVER BAY MUNI (BFW)

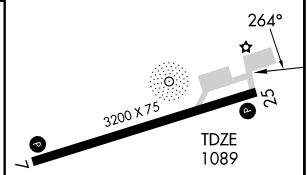
NA

MISSED APPROACH: Climb to 2500 then climbing left turn to 3200 direct BFW NDB and hold.

AWOS-3	MINNEAPOLIS CENTER	CTAF
350	134.55 290.5	122.9 L







CATEGORY	A	B	C	D
S-25	1900-1 811 (900-1)	1900-1¼ 811 (900-1¼)	NA	
CIRCLING	1900-1 811 (900-1)	1900-1¼ 811 (900-1¼)	NA	

REIL Rwy 7 and 25 L
MIRL Rwy 7-25 L

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	3005
356°	TDZE	1623
	Apt Elev	1623

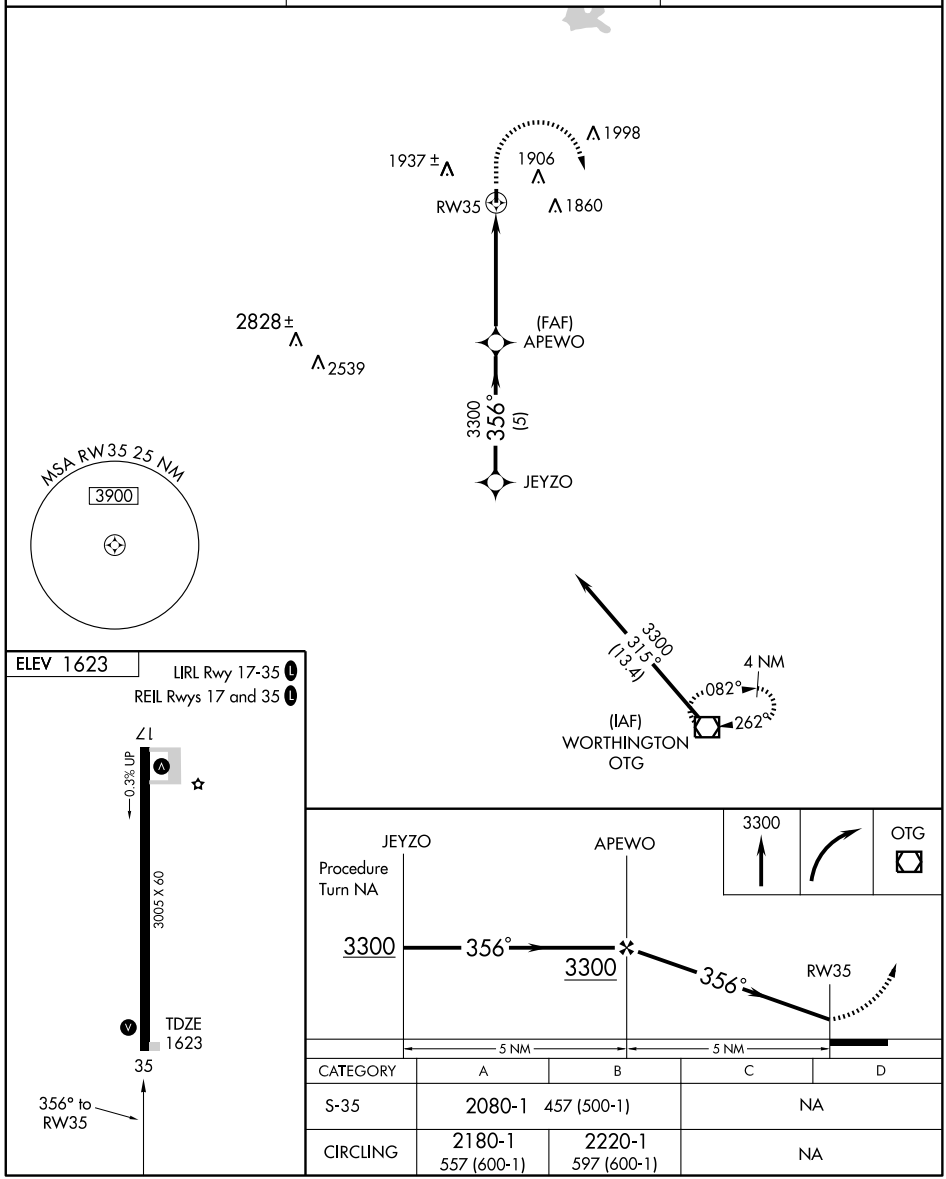
GPS RWY 35
SLAYTON MUNI (DVP)

NA

Use Worthington altimeter setting.

MISSED APPROACH: Climb to 3300, then right turn direct OTG VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	CTAF
118.55	132.05 317.4	122.9 L



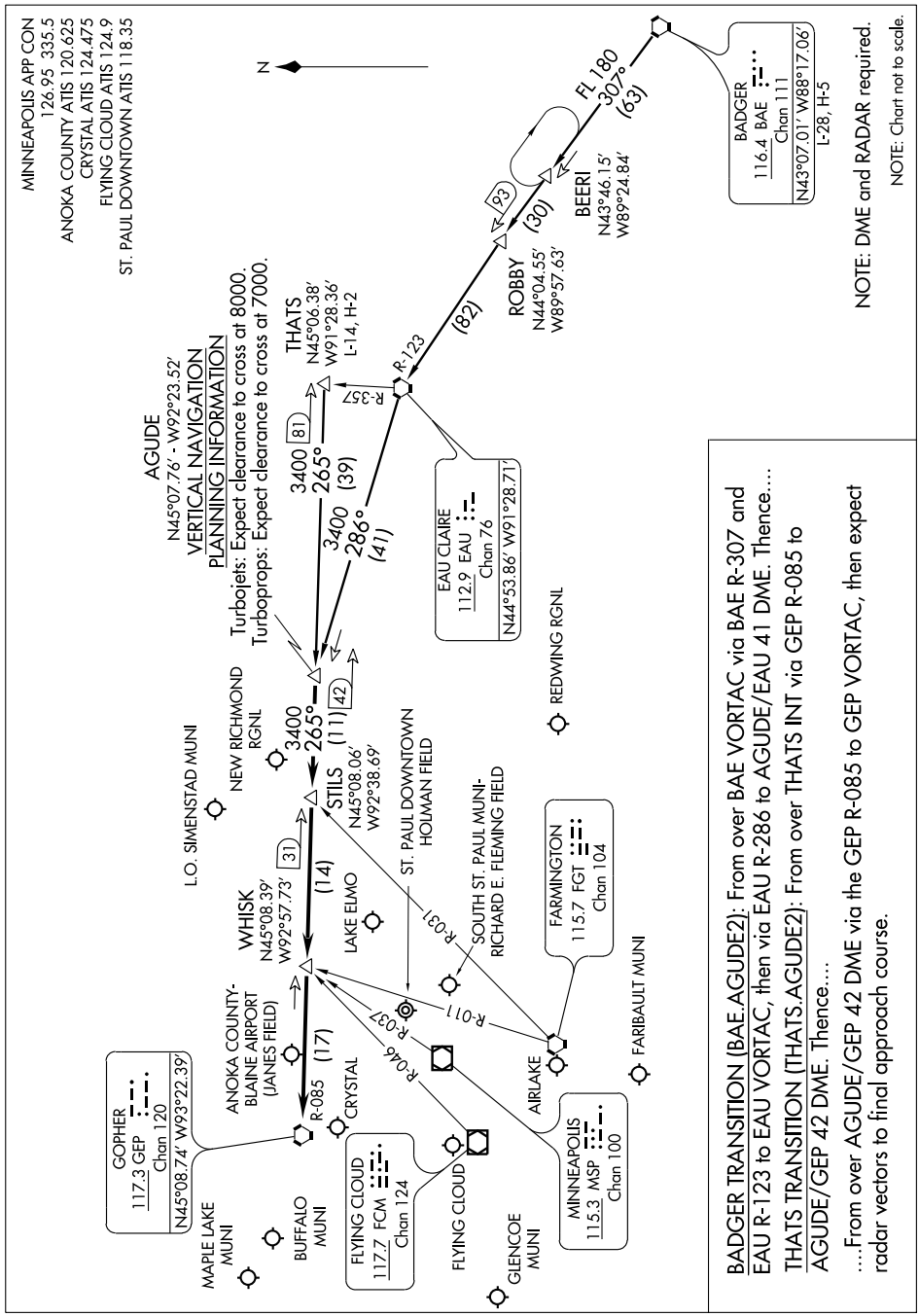
CATEGORY	A	B	C	D
S-35	2080-1 457 (500-1)		NA	
CIRCLING	2180-1 557 (600-1)	2220-1 597 (600-1)	NA	

NC-1. 08 APR 2010 to 06 MAY 2010

AGUDE TWO ARRIVAL

ST-263 (FAA)

MINNEAPOLIS-ST. PAUL, MINNESOTA



BADGER TRANSITION (BAE.AGUDE2): From over BAE VORTAC via BAE R-307 and EAU R-123 to EAU VORTAC, then via EAU R-286 to AGUDE/EAU 41 DME. Thence....

THATS TRANSITION (THATS.AGUDE2): From over THATS INT via GEP R-085 to AGUDE/GEP 42 DME. Thence....

....From over AGUDE/GEP 42 DME via the GEP R-085 to GEP VORTAC, then expect radar vectors to final approach course.

LOC/DME I-SGS 108.35 Chan 20 (Y)	APP CRS 339°	Rwy ldg 4002 TDZE 819 Apt Elev 820

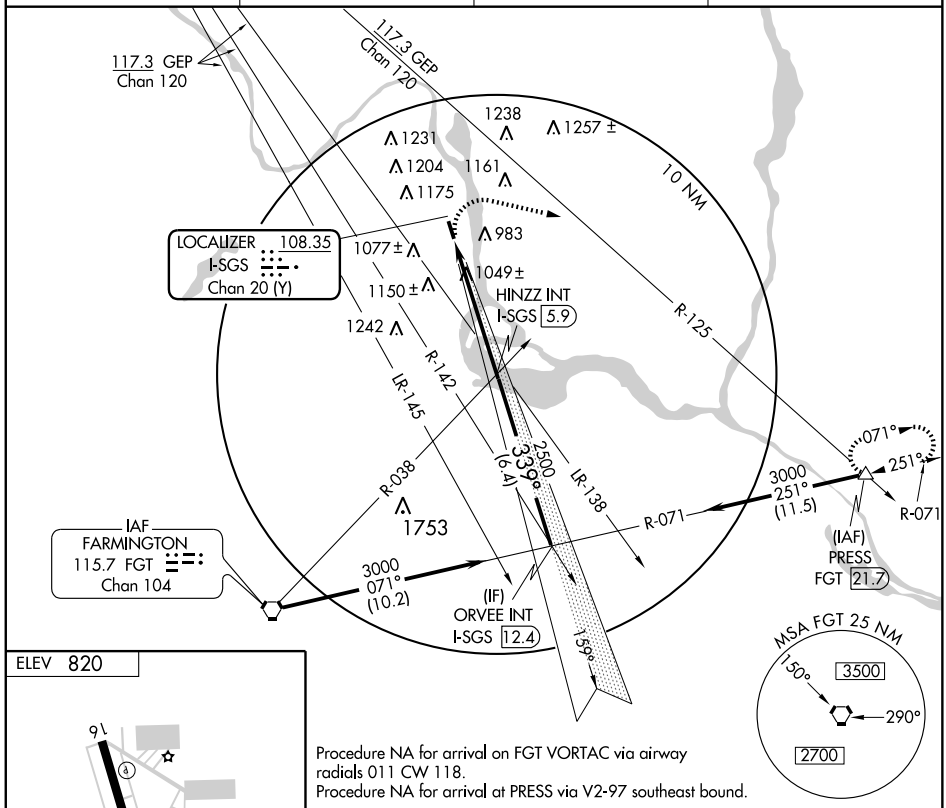
LOC RWY 34

SOUTH ST. PAUL MUNI-RICHARD E. FLEMING FIELD (SGS)

NA When local altimeter setting not received, use Minneapolis-St. Paul Intl/Wold-Chamberlain altimeter setting and increase all MDAs 40 feet; and all visibilities ¼ mile.

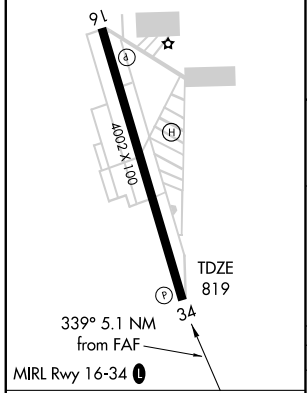
MISSED APPROACH: Climbing right turn to 3000 via heading 100° and GEP VORTAC R-125 to PRESS Int/ FGT 21.7 DME and hold.

AWOS-3	MINNEAPOLIS APP CON	CLNC DEL	UNICOM
119.425	121.2 335.5	118.2	122.7 (CTAF) L

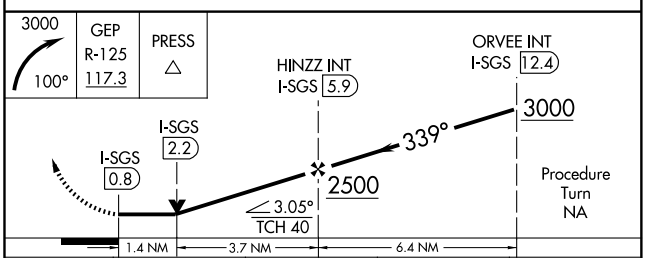


Procedure NA for arrival on FGT VORTAC via airway radials 011 CW 118.
Procedure NA for arrival at PRESS via V2-97 southeast bound.

ELEV 820



FAF to MAP 5.1 NM					
Knots	60	90	120	150	180
Min:Sec	5:06	3:24	2:33	2:02	1:42



CATEGORY	A	B	C	D
S-34	1300-1 481 (500-1)		1300-1¼ 481 (500-1¼)	1300-1½ 481 (500-1½)
CIRCLING	1300-1 480 (500-1)	1420-1 600 (600-1)	1540-2 720 (800-2)	1540-2¼ 720 (800-2¼)

NC-1. 08 APR 2010 to 06 MAY 2010

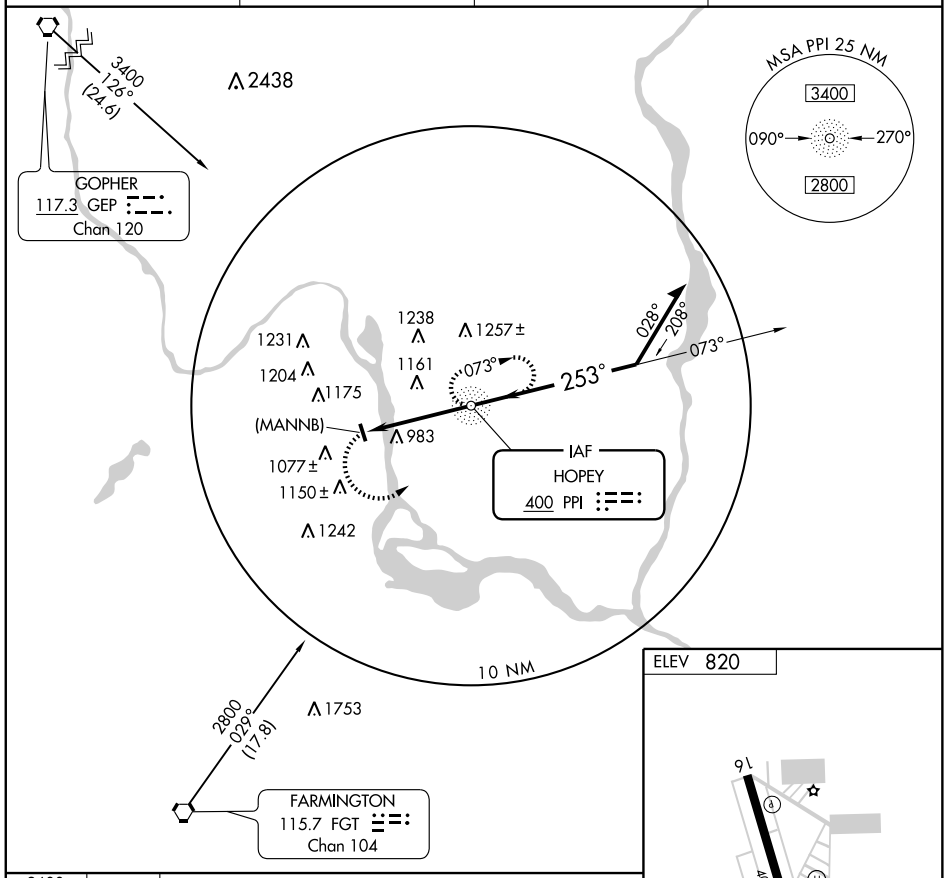
NDB PPI	APP CRS	Rwy ldg	N/A
400	253°	TDZE	N/A
		Apt Elev	820

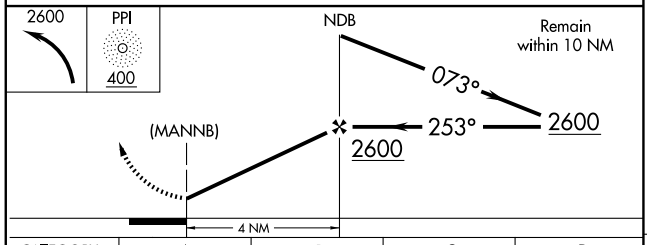
NDB or GPS-B

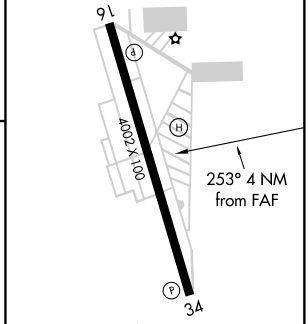
SOUTH ST. PAUL MUNI-RICHARD E. FLEMING FIELD (SGS)

MISSED APPROACH: Climbing left turn to 2600 direct PPI NDB and hold.

AWOS-3	MINNEAPOLIS APP CON	CLNC DEL	UNICOM
119.425	121.2 335.5	118.2	122.7 (CTAF) L







MIRL Rwy 16-34 L

CATEGORY	A	B	C	D
CIRCLING	1480-1 660 (700-1)		1480-1¾ 660 (700-1¾)	1480-2 660 (700-2)

FAF to MAP 4 NM

Knots	60	90	120	150	180
Min:Sec	4:00	2:40	2:00	1:36	1:20

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	4002
339°	TDZE	819
	Apt Elev	820

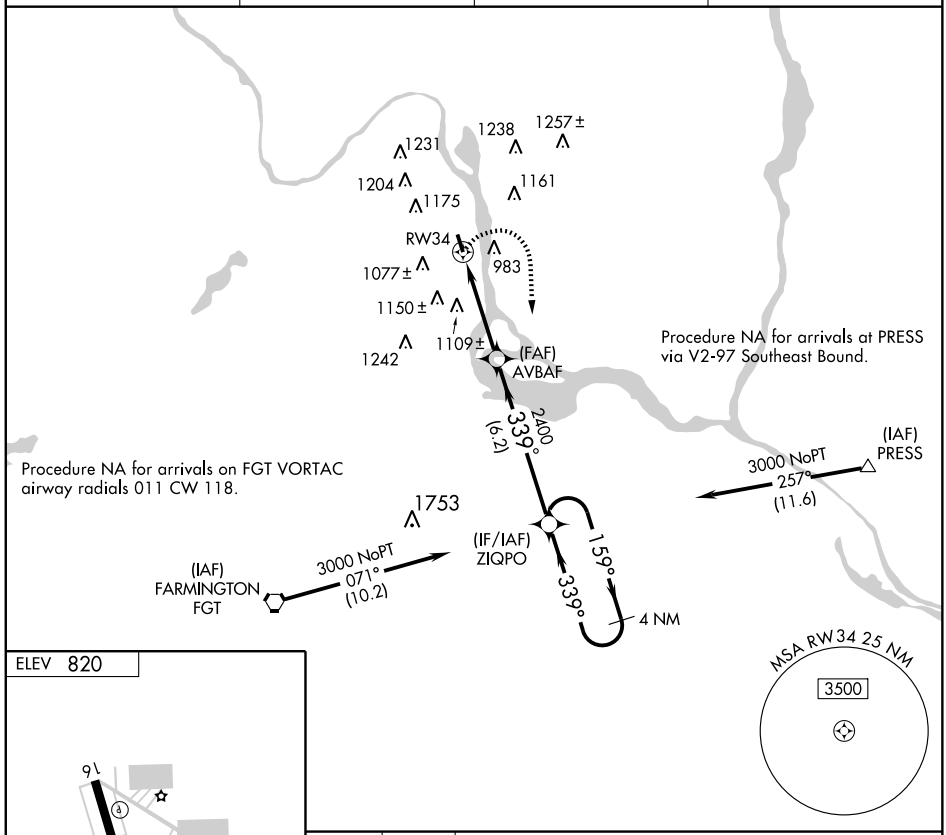
RNAV (GPS) RWY 34

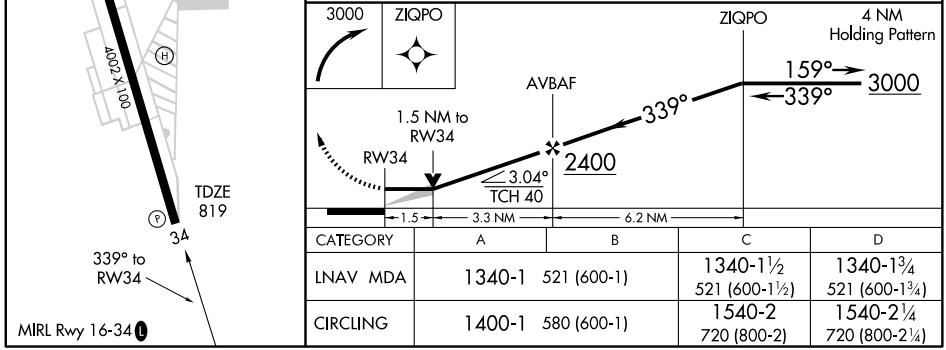
SOUTH ST. PAUL MUNI-RICHARD E. FLEMING FIELD (SGS)

DME/DME RNP-0.3 NA. When local altimeter setting not received, use Minneapolis-St Paul Intl altimeter setting and increase all MDA 40 feet and increase Circling Cats. C and D visibility ¼ mile. VDP NA with Minneapolis-St Paul Intl altimeter setting.

MISSED APPROACH: Climbing right turn to 3000 direct ZIQPO and hold.

AWOS-3	MINNEAPOLIS APP CON	CLNC DEL	UNICOM
119.425	121.2 335.5	118.2	122.7 (CTAF) L





CATEGORY	A	B	C	D
LNAV MDA	1340-1 521 (600-1)		1340-1½ 521 (600-1½)	1340-1¾ 521 (600-1¾)
CIRCLING	1400-1 580 (600-1)		1540-2 720 (800-2)	1540-2¼ 720 (800-2¼)

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME RWF 113.3 Chan 80	APP CRS 152°	Rwy ldg 3400 TDZE 1072 Apt Elev 1072

VOR/DME or GPS RWY 13

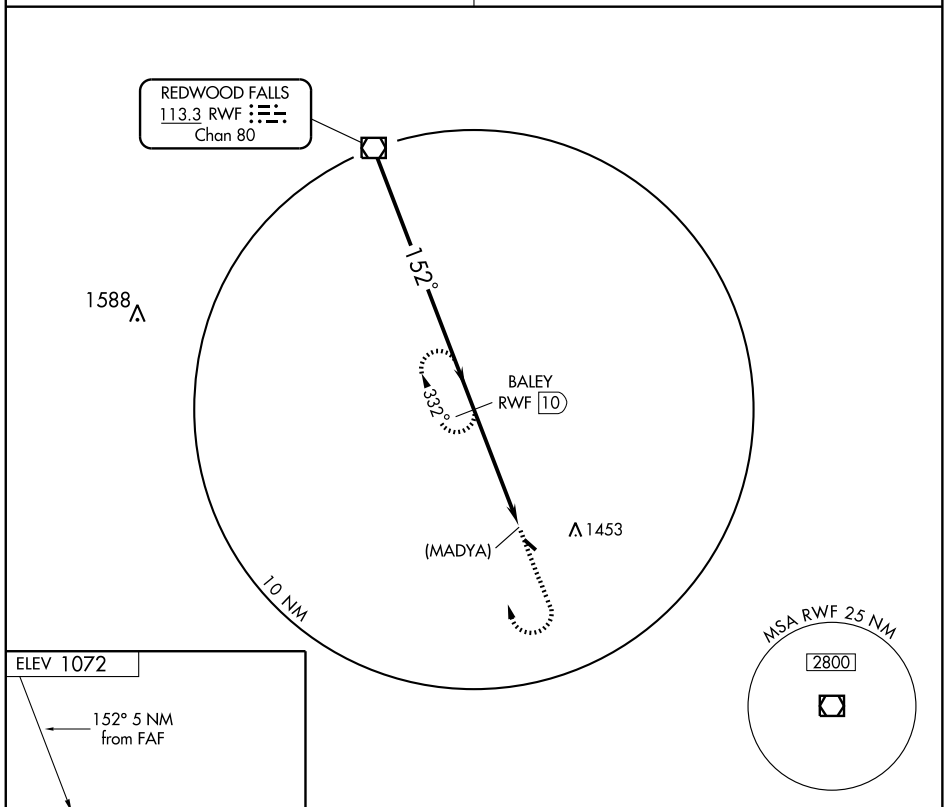
SPRINGFIELD MUNI (D42)

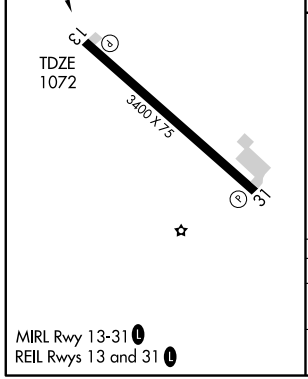
NA

Use Redwood Falls, MN altimeter setting.

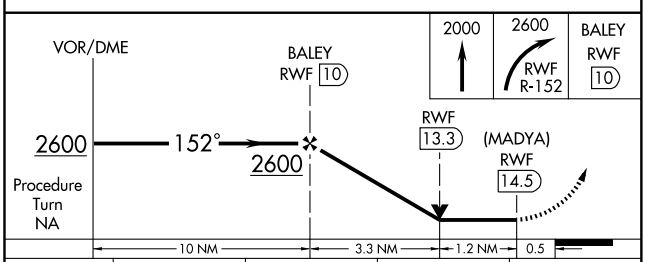
MISSED APPROACH: Climb to 2000 then climbing right turn to 2600 via RWF R-152 to BALEY 10 DME and hold.

MINNEAPOLIS CENTER	UNICOM
127.1 290.2	122.8 (CTAF) L





MIRL Rwy 13-31 L
REIL Rwys 13 and 31 L



CATEGORY	A	B	C	D
S-13	1620-1 548 (600-1)		1620-1½ 548 (600-1½)	NA
CIRCLING	1620-1 548 (600-1)	1820-1¼ 748 (800-1¼)	1820-2¼ 748 (800-2¼)	NA

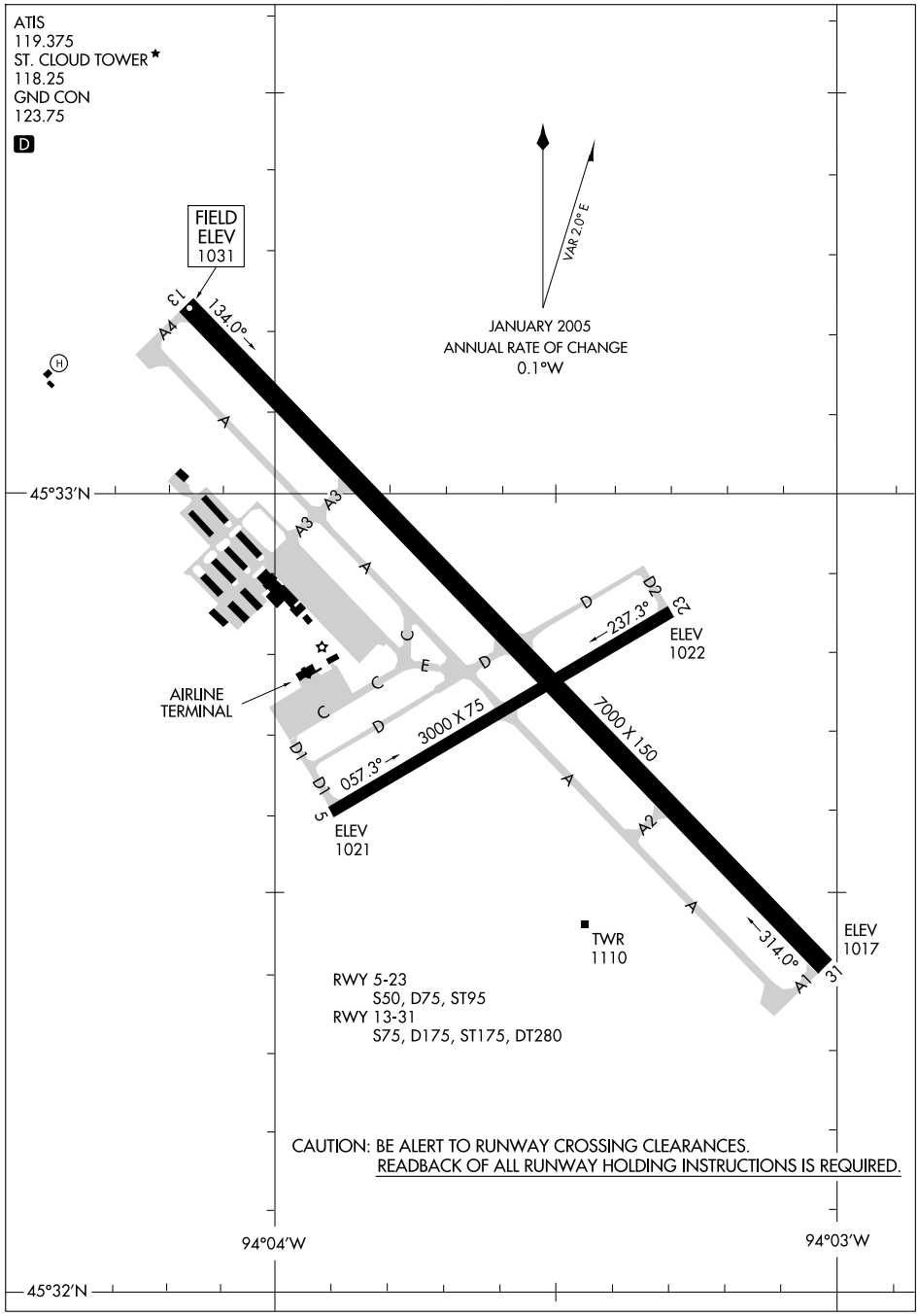
NC-1. 08 APR 2010 to 06 MAY 2010

10042

AIRPORT DIAGRAM

AL-5799 (FAA)

ST. CLOUD RGNL (STC)
ST. CLOUD, MINNESOTA



NC-1, 08 APR 2010 to 06 MAY 2010

LOC I-BPM	APP CRS	Rwy ldg	7000
111.9	133°	TDZE	1031
		Apt Elev	1031

ILS or LOC/DME RWY 13

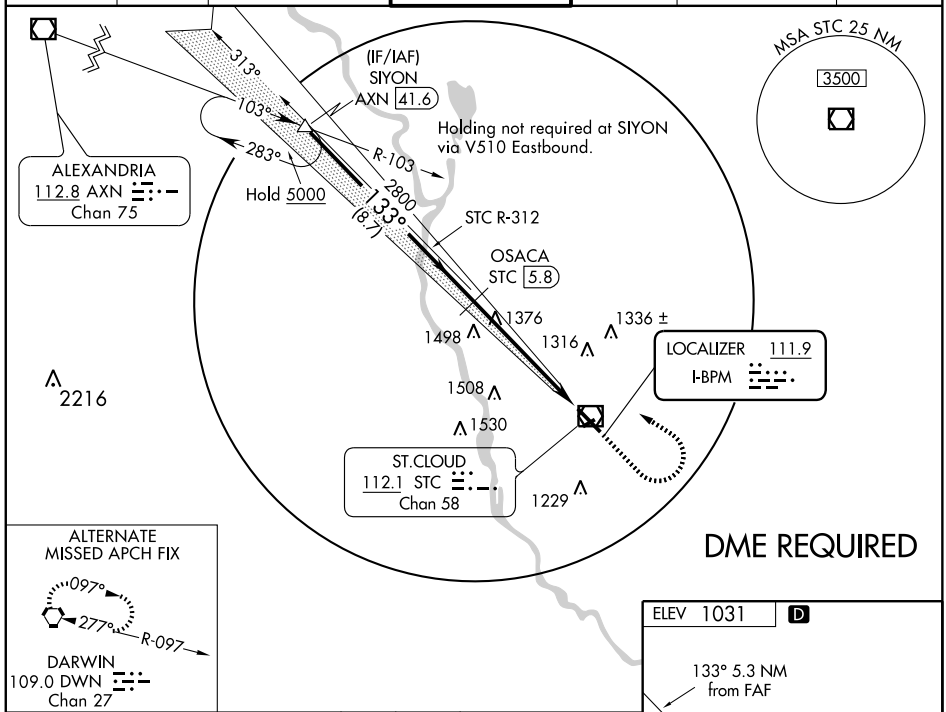
ST. CLOUD RGNL (STC)

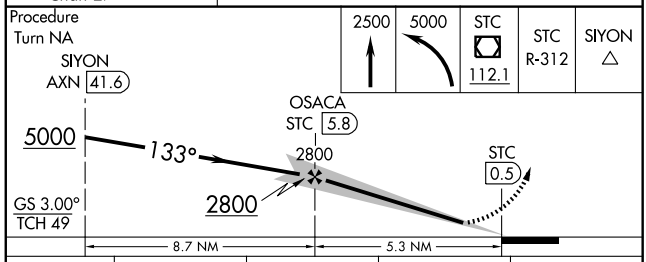
Circling to Rwy 5-23 NA at night. DME from STC VOR/DME. Simultaneous reception of I-BPM and STC DME required. DME required. When local altimeter setting not received, use Little Falls altimeter setting and increase DA to 1307 and all MDAs 80 feet. Increase S-LOC 13 Cats C/D and Circling Cats C/D visibility ¼ mile. For inoperative MALSR when using Little Falls altimeter setting, increase S-ILS 13 all Cats visibility ½ mile.

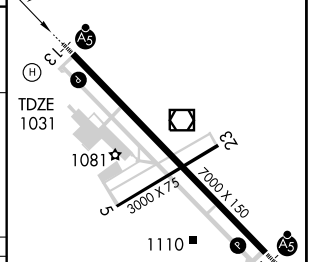
MALSR A5

MISSED APPROACH: Climb to 2500 then climbing left turn to 5000 direct STC VOR/DME and via STC VOR/DME R-312 to SIYON/AXN VOR/DME 41.6 DME and hold.

ATIS	ASOS	MINNEAPOLIS CENTER	ST. CLOUD TOWER ★	GND CON	PRINCETON RADIO	UNICOM
119.375	112.1	121.05 397.9	118.25 (CTAF) L	123.75	122.5	123.5







CATEGORY	A	B	C	D
S-ILS 13	1231-½ 200 (200-½)			
S-LOC 13	1680-½ 649 (700-½)		1680-1¼ 649 (700-1¼)	1680-1½ 649 (700-1½)
CIRCLING	1680-1 649 (700-1)		1680-1¾ 649 (700-1¾)	1680-2 649 (700-2)

MIRL Rwy 5-23 L
HIRL Rwy 13-31 L

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-STC	APP CRS	Rwy ldg	7000
111.9	313°	TDZE	1019
		Apt Elev	1031

ILS or LOC RWY 31
ST. CLOUD RGNL (STC)

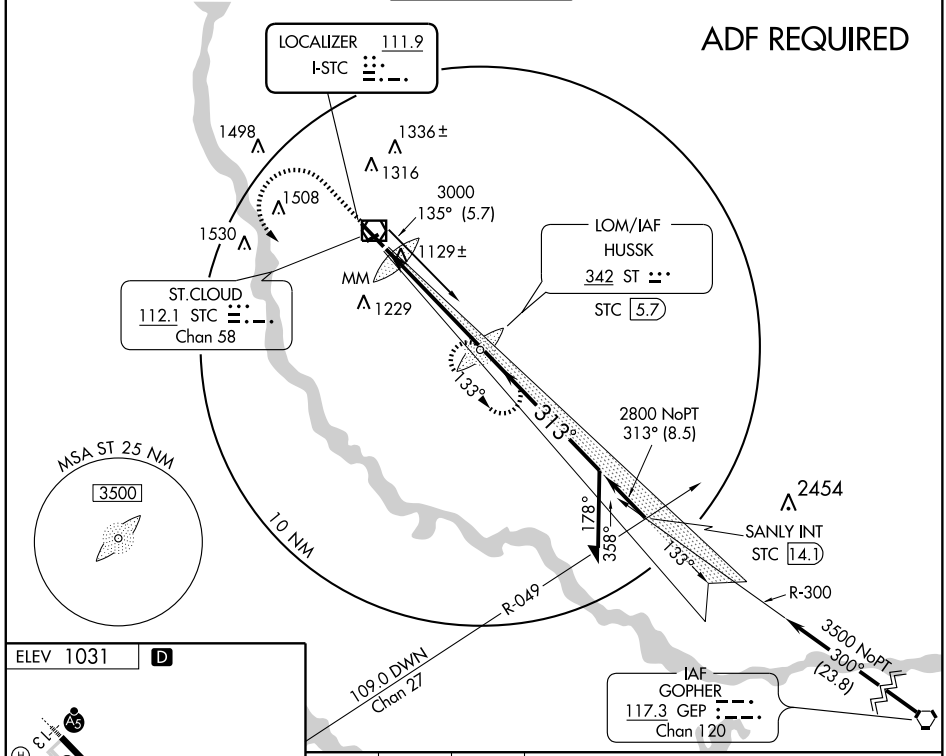
When local altimeter setting not received, use Little Falls altimeter setting and increase all DA 76 feet and all MDA 80 feet.

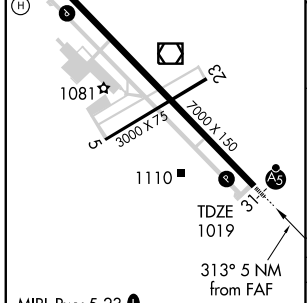
NA

MALSR

MISSED APPROACH: Climb to 3000, then left turn direct HUSSK LOM and hold.

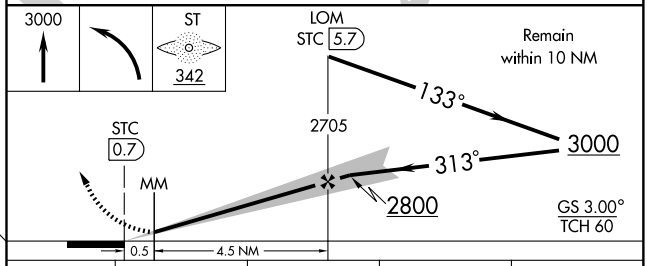
ATIS	ASOS	MINNEAPOLIS CENTER	ST. CLOUD TOWER ★	GND CON	PRINCETON RADIO	UNICOM
119.375	112.1	121.05 397.9	118.25 (CTAF) L	123.75	122.5	123.5





MIRL Rwy 5-23 L
HIRL Rwy 13-31 L

FAF to MAP 5 NM					
Knots	60	90	120	150	180
Min:Sec	5:00	3:20	2:30	2:00	1:40



CATEGORY	A	B	C	D
S-ILS 31	1219-½ 200 (200-½)			
S-LOC 31	1380-½ 361 (400-½)			1380-¾ 361 (400-¾)
CIRCLING	1500-1 469 (500-1)		1500-1½ 469 (500-1½)	1620-2 590 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

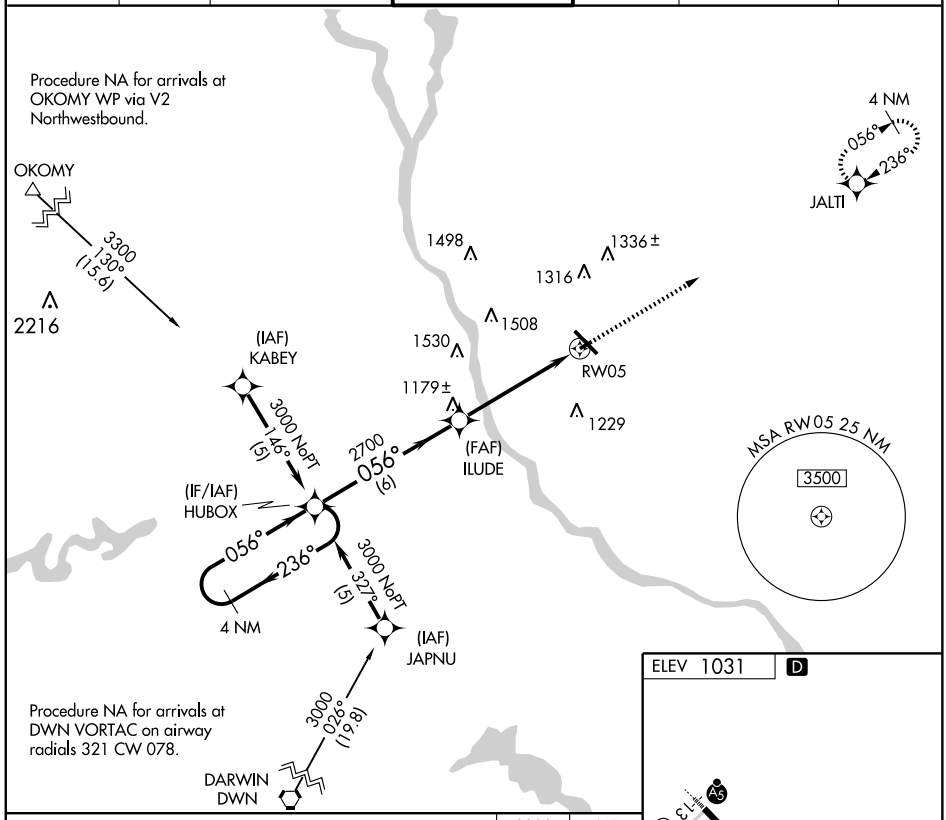
APP CRS	Rwy ldg	3000
056°	TDZE	1022
	Apt Elev	1031

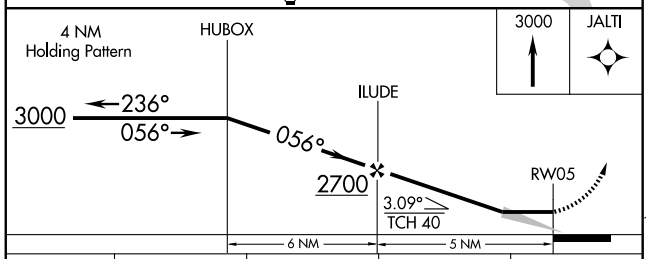
RNAV (GPS) RWY 5
ST. CLOUD RGNL (STC)

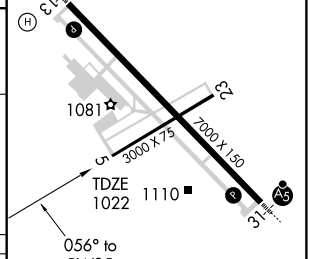
When local altimeter setting not received, use Little Falls altimeter setting and increase all MDA 80 feet and LNAV Cat C visibility ¼ mile. Visibility reduction by helicopterrs NA. DME/DME RNP-0.3 NA.

MISSED APPROACH: Climb to 3000 direct JALTI WP and hold.

ATIS	ASOS	MINNEAPOLIS CENTER	ST. CLOUD TOWER ★	GND CON	PRINCETON RADIO	UNICOM
119.375	112.1	121.05 397.9	118.25 (CTAF) L	123.75	122.5	123.5







MIRL Rwy 5-23 L
HIRL Rwy 13-31 L

CATEGORY	A	B	C	D
LNAV MDA	1400-1 378 (400-1)			NA
CIRCLING	1500-1 469 (500-1)		1500-1½ 469 (500-1½)	NA

WAAS CH 82013 W13A	APP CRS 133°	Rwy ldg 7000 TDZE 1031 Apt Elev 1031

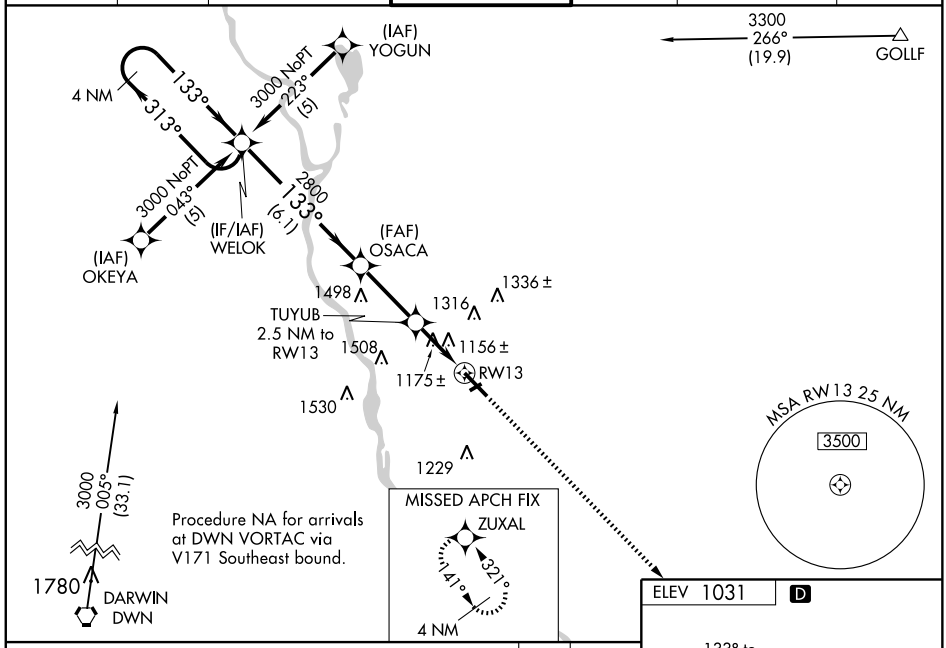
RNAV (GPS) RWY 13
ST. CLOUD RGNL (STC)

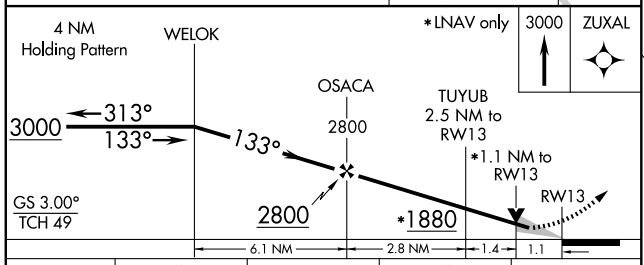
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 47°C (116°F). DME/DME RNP-0.3 NA. VDP and Baro-VNAV NA when using Little Falls altimeter setting. When local altimeter setting not received, use Little Falls altimeter setting and increase all DA 76 feet and all MDA 80 feet. Increase LNAV/ VNAV visibility ¼ mile all Cats. Circling to Rwy 5-23 NA at night. For inoperative MALSR, increase LNAV Cat D visibility ¼ mile. For inoperative MALSR when using Little Falls altimeter setting, increase LPV all Cats visibility ½ mile.

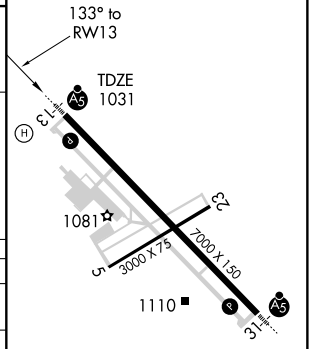
MALSR

MISSED APPROACH: Climb to 3000 direct ZUXAL and hold.

ATIS	ASOS	MINNEAPOLIS CENTER	ST. CLOUD TOWER ★	GND CON	PRINCETON RADIO	UNICOM
119.375	112.1	121.05 397.9	118.25 (CTAF) L	123.75	122.5	123.5







CATEGORY	A	B	C	D
LPV DA	1231-½ 200 (200-½)			
LNAV/ VNAV DA	1455-1 424 (500-1)			
LNAV MDA	1440-½ 409 (500-½)		1440-¾ 409 (500-¾)	1440-1 409 (500-1)
CIRCLING	1500-1 469 (500-1)		1500-1½ 469 (500-1½)	1620-2 589 (600-2)

MIRL Rwy 5-23 L
HIRL Rwy 13-31 L

NC-1. 08 APR 2010 to 06 MAY 2010

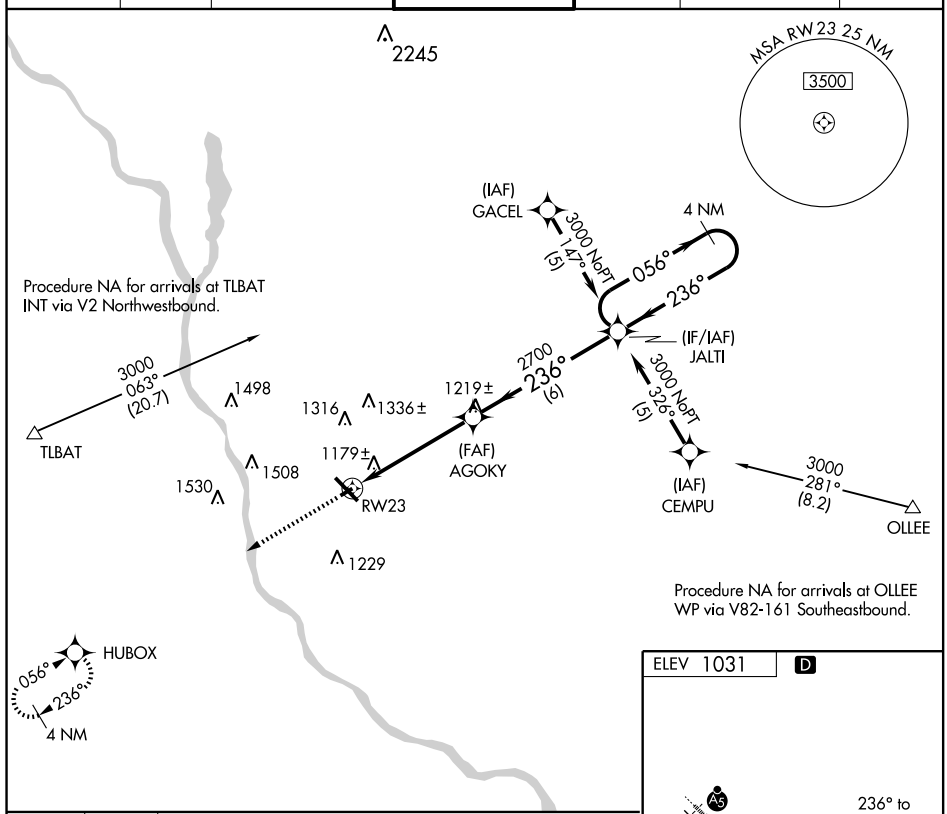
APP CRS	Rwy ldg	3000
236°	TDZE	1022
	Apt Elev	1031

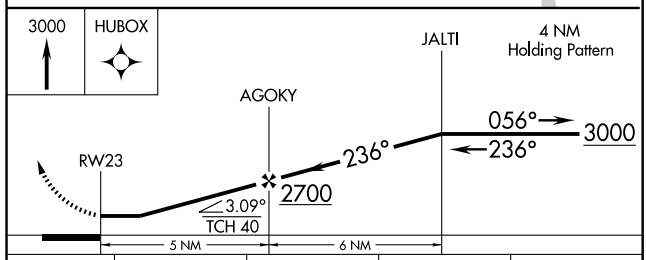
RNAV (GPS) RWY 23
ST. CLOUD RGNL (STC)

When local altimeter setting not received, use Little Falls altimeter setting and increase all MDA 80 feet and LNAV Cat C visibility ¼ mile.
Visibility reduction by helicopters NA. DME/DME RNP-0.3 NA.

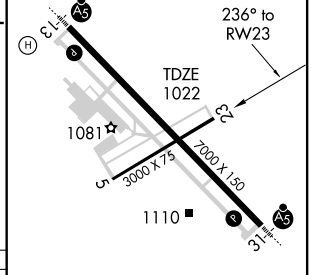
MISSED APPROACH: Climb to 3000 direct HUBOX WP and hold.

ATIS	ASOS	MINNEAPOLIS CENTER	ST. CLOUD TOWER ★	GND CON	PRINCETON RADIO	UNICOM
119.375	112.1	121.05 397.9	118.25 (CTAF) L	123.75	122.5	123.5





CATEGORY	A	B	C	D
LNAV MDA	1440-1 418 (500-1)		1440-1¼ 418 (500-1¼)	NA
CIRCLING	1500-1 469 (500-1)		1500-1½ 469 (500-1½)	NA



MIRL Rwy 5-23 L
HIRL Rwy 13-31 L

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 61213 W31A	APP CRS 313°	Rwy ldg 7000 TDZE 1020 Apt Elev 1031

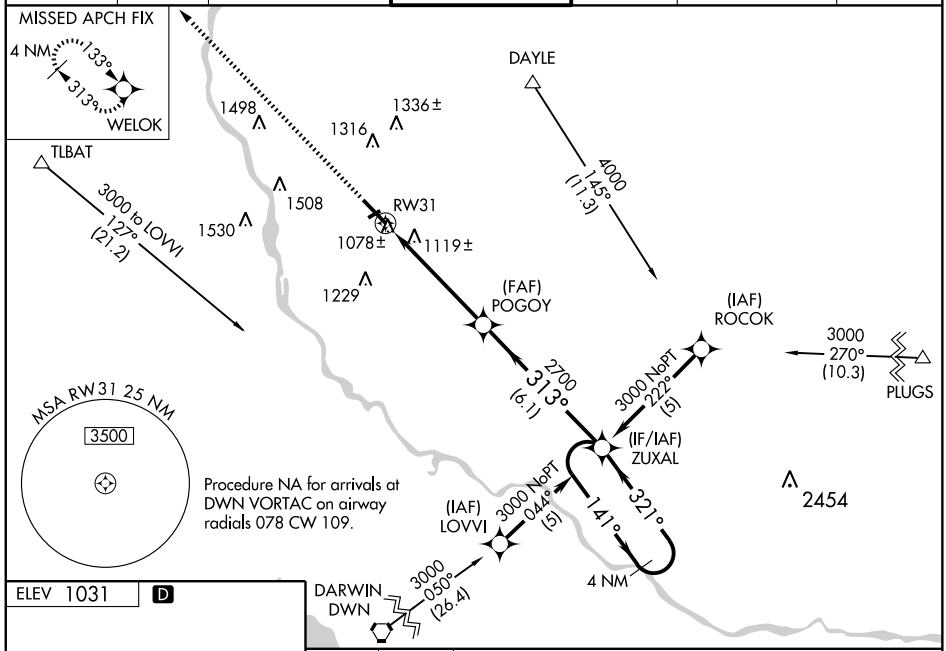
RNAV (GPS) RWY 31
ST. CLOUD RGNL (STC)

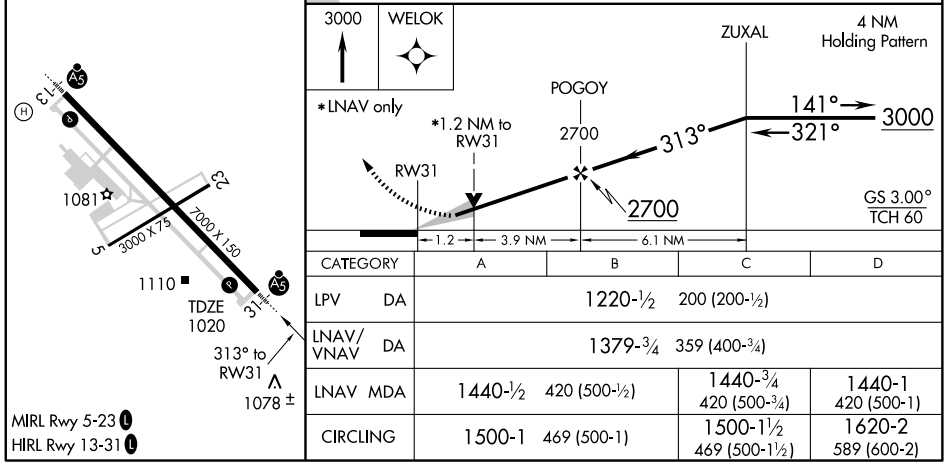
DME/DME RNP-0.3 NA. Circling to Rwy 5-23 NA at night. For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). When local altimeter setting not received, use Little Falls altimeter setting and increase all DA 76 feet and all MDA 80 feet. Increase LNAV/ VNAV visibility ¼ mile all Cats. For inoperative MALSR, increase LNAV Cat D visibility ¼ mile. For inoperative MALSR when using Little Falls altimeter setting, increase LPV all Cats visibility ½ mile. Baro-VNAV and VDP NA when using Little Falls altimeter setting.

MALSR

MISSED APPROACH: Climb to 3000 direct WELOK and hold.

ATIS	ASOS	MINNEAPOLIS CENTER	ST. CLOUD TOWER ★	GND CON	PRINCETON RADIO	UNICOM
119.375	112.1	121.05 397.9	118.25 (CTAF)	123.75	122.5	123.5





CATEGORY		A	B	C	D
LPV	DA	1220-½ 200 (200-½)			
LNAV/ VNAV	DA	1379-¾ 359 (400-¾)			
LNAV	MDA	1440-½ 420 (500-½)		1440-¾ 420 (500-¾)	1440-1 420 (500-1)
CIRCLING		1500-1 469 (500-1)		1500-1½ 469 (500-1½)	1620-2 589 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME STC	APP CRS	Rwy ldg	7000
112.1	126°	TDZE	1031
Chan 58		Apt Elev	1031

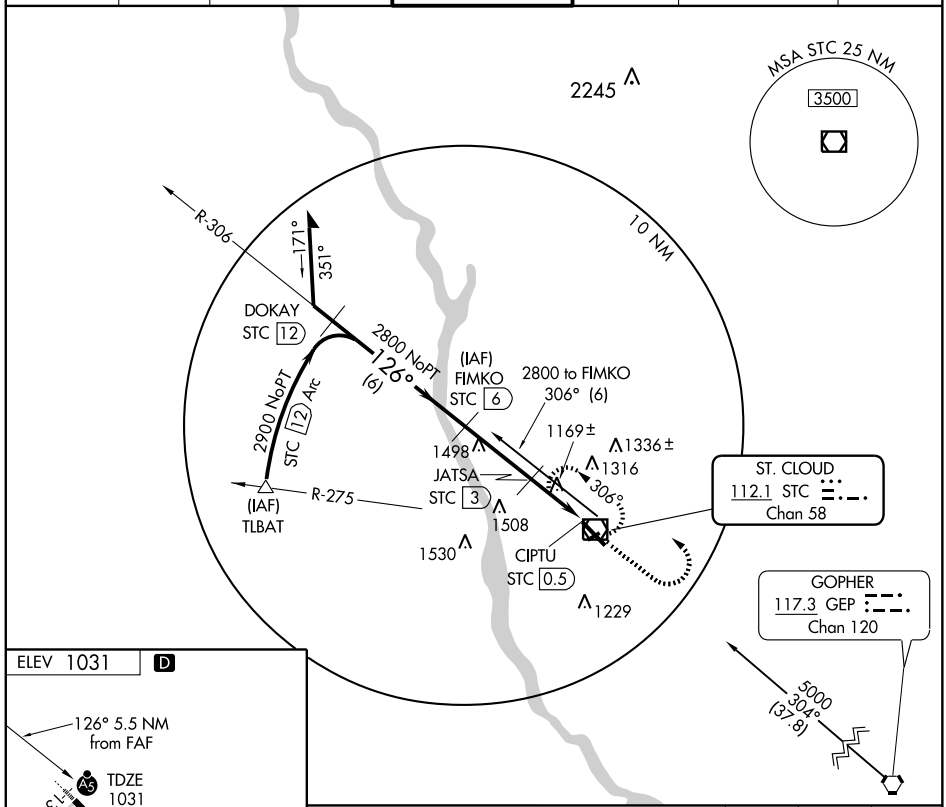
VOR/DME RWY 13
ST. CLOUD RGNL (STC)

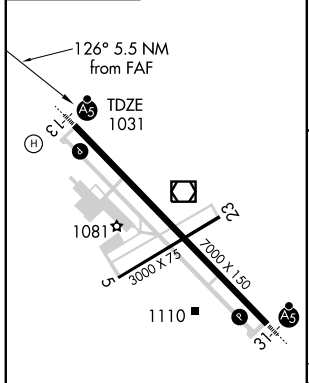
For inoperative MALSR, increase Cat D visibility to 1¼. When local altimeter setting not received, use Little Falls altimeter setting and increase all MDA 80 feet.

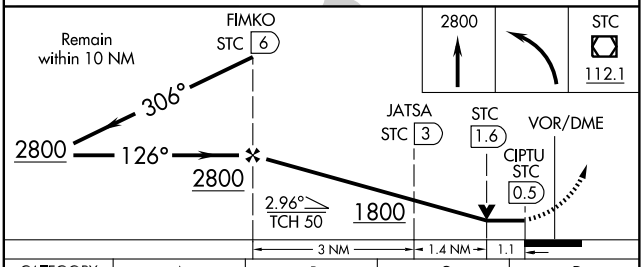
MALSR

MISSED APPROACH: Climb to 2800, then left turn direct STC VOR/DME and hold.

ATIS	ASOS	MINNEAPOLIS CENTER	ST. CLOUD TOWER ★	GND CON	PRINCETON RADIO	UNICOM
119.375	112.1	121.05 397.9	118.25 (CTAF) L	123.75	122.5	123.5







CATEGORY	A	B	C	D
S-13	1440-½ 409 (500-½)		1440-¾ 409 (500-¾)	1440-1 409 (500-1)
CIRCLING	1500-1 469 (500-1)		1500-1½ 469 (500-1½)	1620-2 590 (600-2)

MIRL Rwy 5-23 L
HIRL Rwy 13-31 L

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME STC	APP CRS	Rwy ldg	7000
112.1	320°	TDZE	1019
Chan 58		Apt Elev	1031

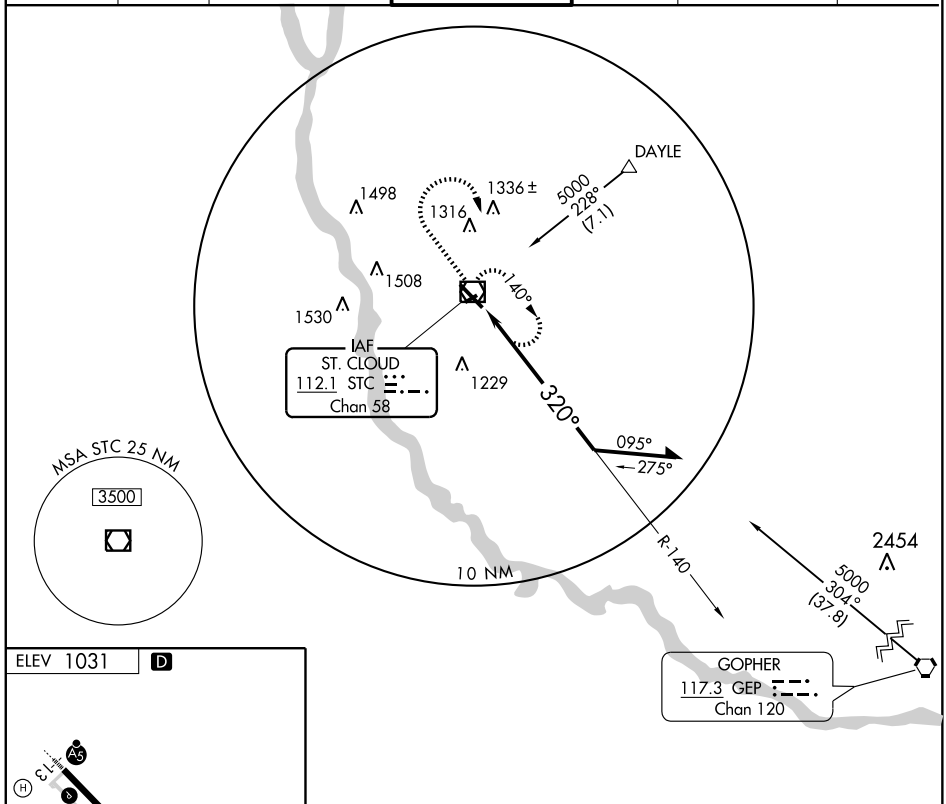
VOR RWY 31
ST. CLOUD RGNL (STC)

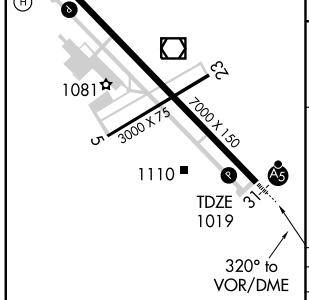
For inoperative MALSR, increase Cat D visibility to 1¼. When local altimeter setting not received, use Little Falls altimeter setting and increase all MDA 80 feet.

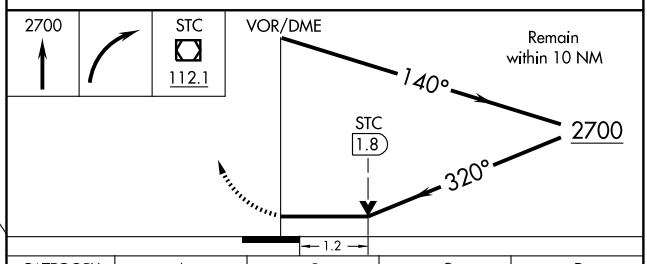
MALSR

MISSED APPROACH: Climb to 2700, then right turn direct STC VOR/DME and hold.

ATIS	ASOS	MINNEAPOLIS CENTER	ST. CLOUD TOWER ★	GND CON	PRINCETON RADIO	UNICOM
119.375	112.1	121.05 397.9	118.25 (CTAF) L	123.75	122.5	123.5







CATEGORY	A	B	C	D
S-31	1440-½ 421 (500-½)		1440-¾ 421 (500-¾)	1440-1 421 (500-1)
CIRCLING	1500-1 469 (500-1)		1500-1½ 469 (500-1½)	1620-2 590 (600-2)

MIRL Rwy 5-23 L
HIRL Rwy 13-31 L

NC-1. 08 APR 2010 to 06 MAY 2010

NDB JYG 260	APP CRS 340°	Rwy ldg 4000 TDZE 1067 Apt Elev 1067

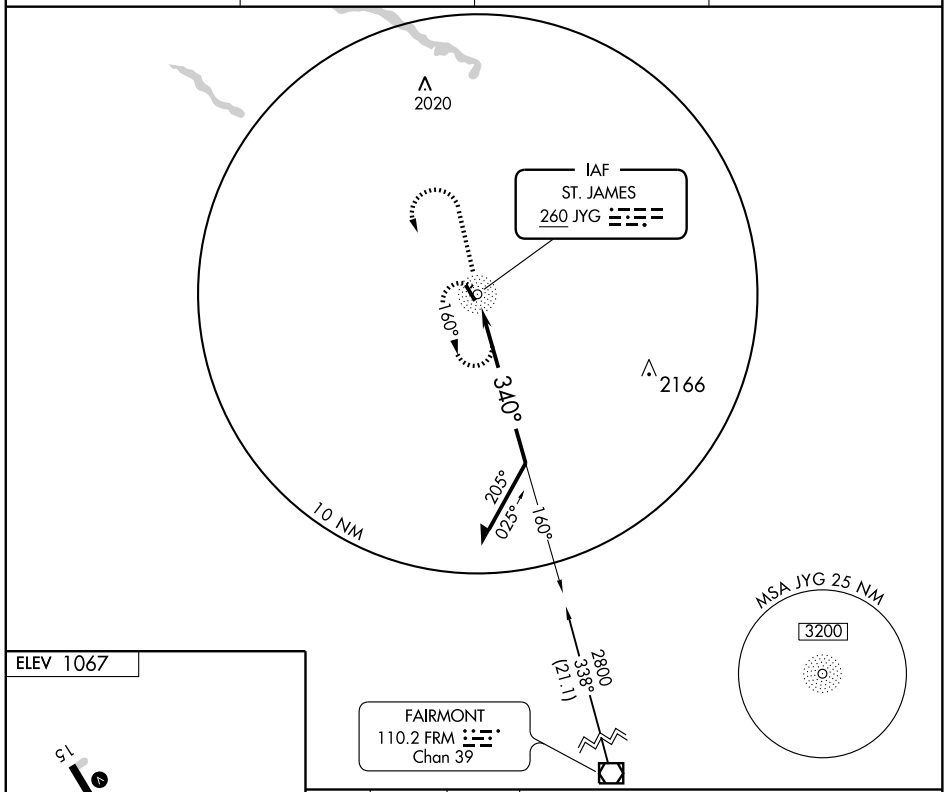
NDB RWY 33

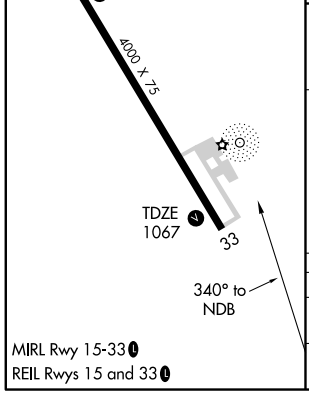
ST. JAMES MUNI (JYG)

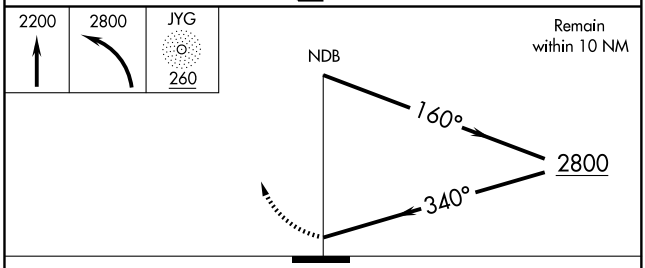
NA

MISSED APPROACH: Climb to 2200 then climbing left turn to 2800 direct JYG NDB and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	CTAF
260	127.75 257.7	121.725	122.9







MIRL Rwy 15-33

REIL Rwys 15 and 33

CATEGORY	A	B	C	D
S-33	1620-1	553 (600-1)	NA	
CIRCLING	1620-1	553 (600-1)	NA	

NC-1. 08 APR 2010 to 06 MAY 2010

ST. JAMES, MINNESOTA

AL-9192 (FAA)

RNAV (GPS) RWY 15

ST. JAMES MUNI (JYG)

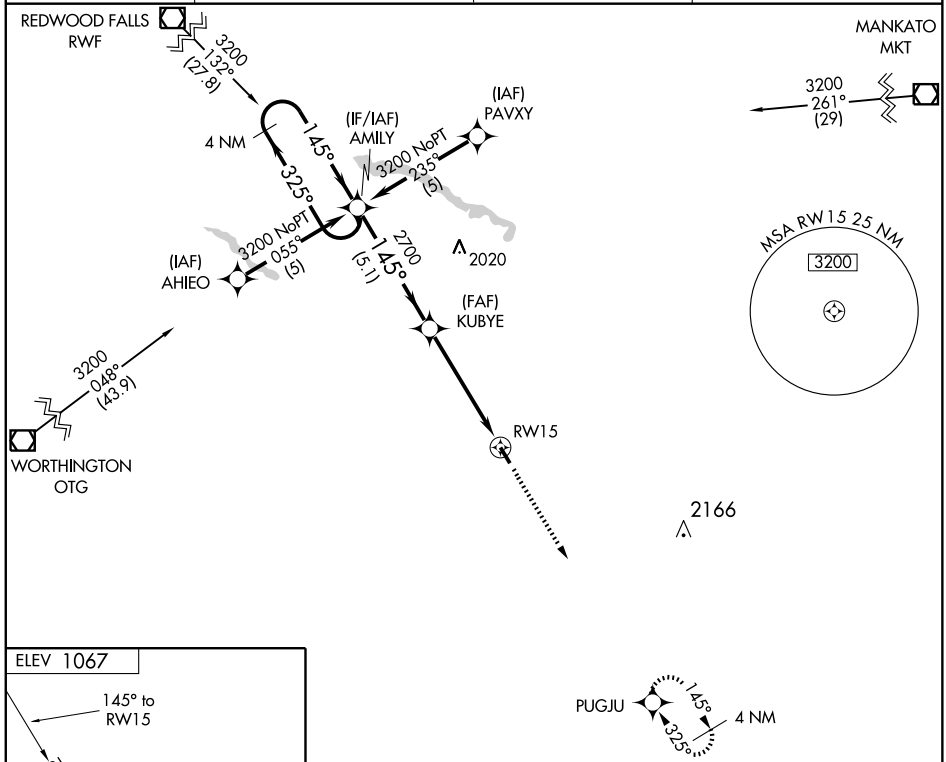
APP CRS	Rwy ldg	4000
145°	TDZE	1067
	Apt Elev	1067

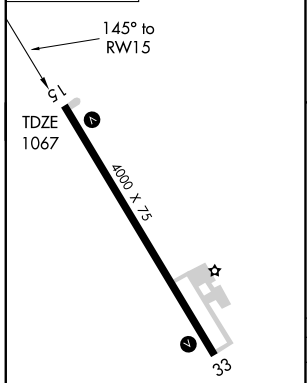
Baro-VNAV not authorized below -17°C (1°F).
GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

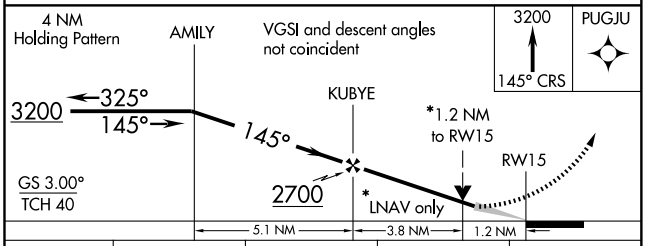
NA

MISSED APPROACH: Climb to 3200 via 145° course to PUGJU WP and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	CTAF
260	127.75 257.7	121.725	122.9 L







CATEGORY	A	B	C	D
GLS PA DA	NA			
LNAV/VNAV DA	1460-1½ 393 (400-1½)		NA	
LNAV MDA	1480-1 413 (500-1)		NA	
CIRCLING	1500-1½ 433 (500-1½)	1520-1½ 453 (500-1½)	NA	

MIRL Rwy 15-33 L
REIL Rwys 15 and 33 L

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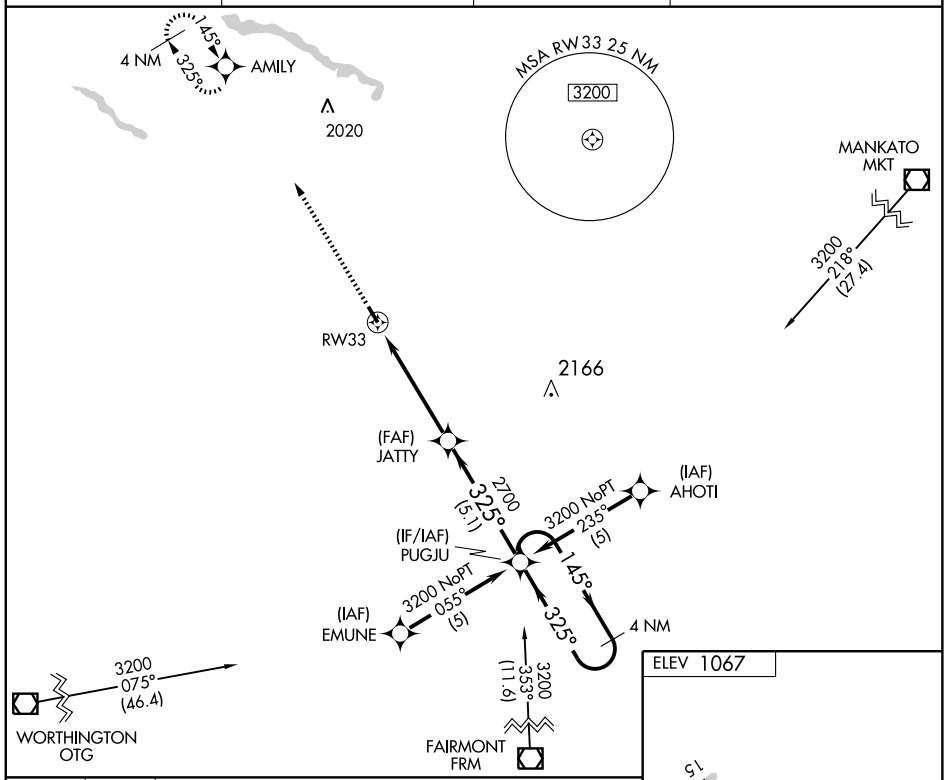
APP CRS	Rwy ldg	4000
325°	TDZE	1066
	Apt Elev	1067

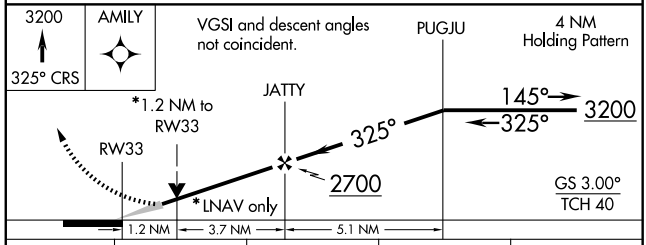
RNAV (GPS) RWY 33
ST. JAMES MUNI (JYG)

Baro-VNAV not authorized below -17°C (1°F).
NA GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

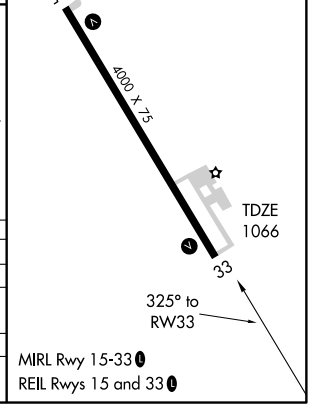
MISSED APPROACH: Climb to 3200 via 325° course to AMILY WP and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	CTAF
260	127.75 257.7	121.725	122.9 L





CATEGORY	A	B	C	D
GLS PA DA	NA			
LNAV/VNAV DA	1440-1¼ 374 (400-1¼)		NA	
LNAV MDA	1460-1 394 (400-1)		NA	
CIRCLING	1500-1¼ 433 (500-1¼)	1520-1¼ 453 (500-1¼)	NA	

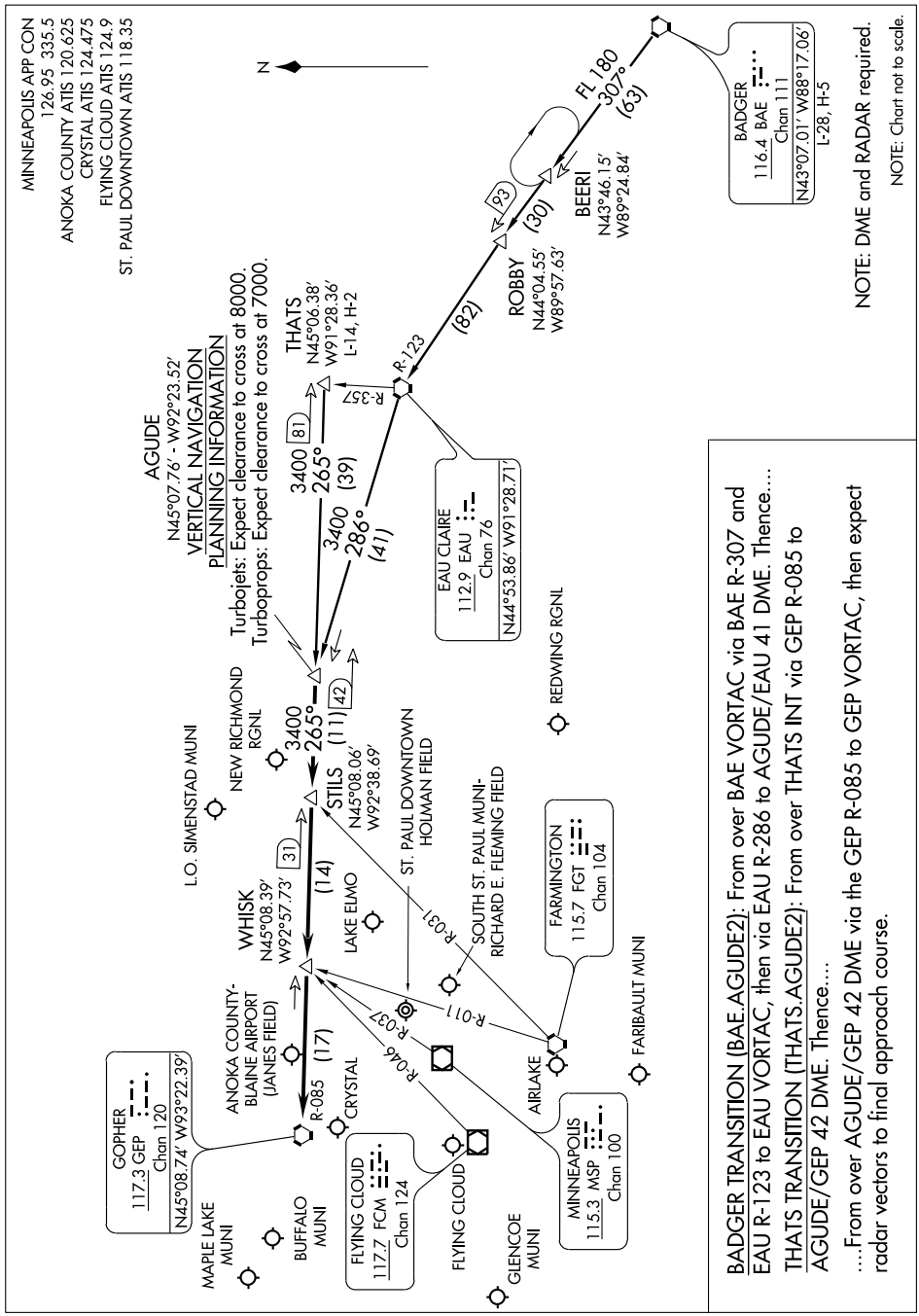


NC-1. 08 APR 2010 to 06 MAY 2010

AGUDE TWO ARRIVAL

ST-263 (FAA)

MINNEAPOLIS-ST. PAUL, MINNESOTA



BADGER TRANSITION (BAE.AGUDE2): From over BAE VORTAC via BAE R-307 and EAU R-123 to EAU VORTAC, then via EAU R-286 to AGUDE/EAU 41 DME. Thence....

THATS TRANSITION (THATS.AGUDE2): From over THATS INT via GEP R-085 to AGUDE/GEP 42 DME. Thence....

....From over AGUDE/GEP 42 DME via the GEP R-085 to GEP VORTAC, then expect radar vectors to final approach course.

NDB PPI	APP CRS	Rwy ldg	2497
400	023°	TDZE	932
		Apt Elev	932

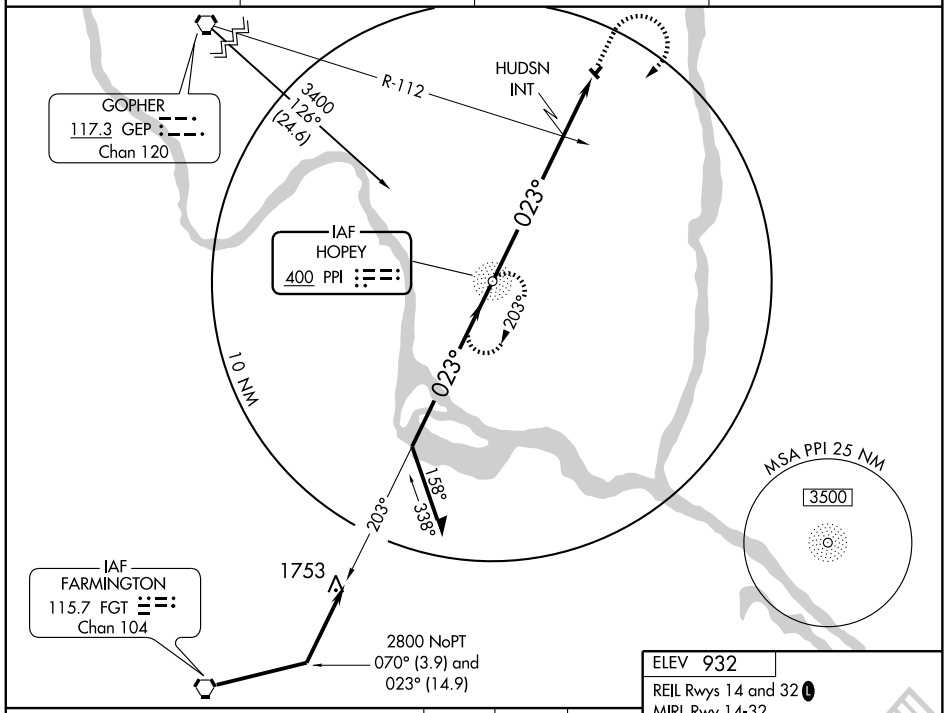
NDB RWY 4

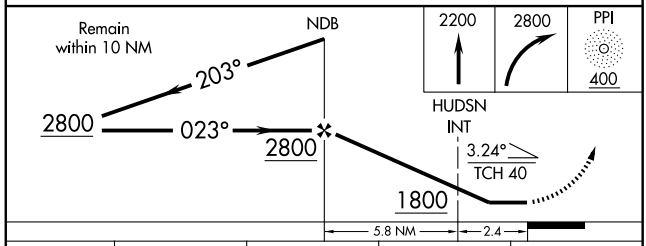
ST. PAUL/LAKE ELMO (21D)

When local altimeter setting not received, use St. Paul Downtown Holman Field altimeter setting.
Straight-in minimums NA at night.

MISSED APPROACH: Climb to 2200 then climbing right turn to 2800 direct PPI NDB and hold.

AWOS-3	MINNEAPOLIS APP CON	CLNC DEL	UNICOM
120.075	121.2	118.625	122.8 (CTAF) L

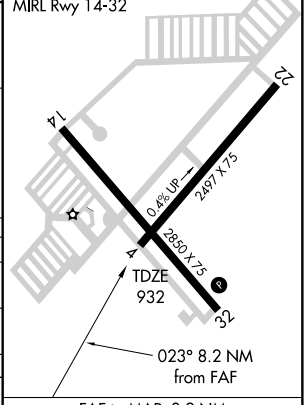




CATEGORY	A	B	C	D
S-4	1800-1 868 (900-1)	1800-1¼ 868 (900-1¼)	1800-2½ 868 (900-2½)	NA
CIRCLING	1800-1 868 (900-1)	1800-1¼ 868 (900-1¼)	1800-2½ 868 (900-2½)	NA
HUDSN FIX MINIMUMS				
S-4	1520-1 588 (600-1)		1520-1½ 588 (600-1½)	NA
CIRCLING	1520-1 588 (600-1)	1540-1 608 (700-1)	1540-1¾ 608 (700-1¾)	NA

ELEV 932

REIL Rwys 14 and 32 L
MIRL Rwy 14-32



FAF to MAP 8.2 NM

Knots	60	90	120	150	180
Min:Sec	8:12	5:28	4:06	3:17	2:44

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	2850
314°	TDZE	926
	Apt Elev	932

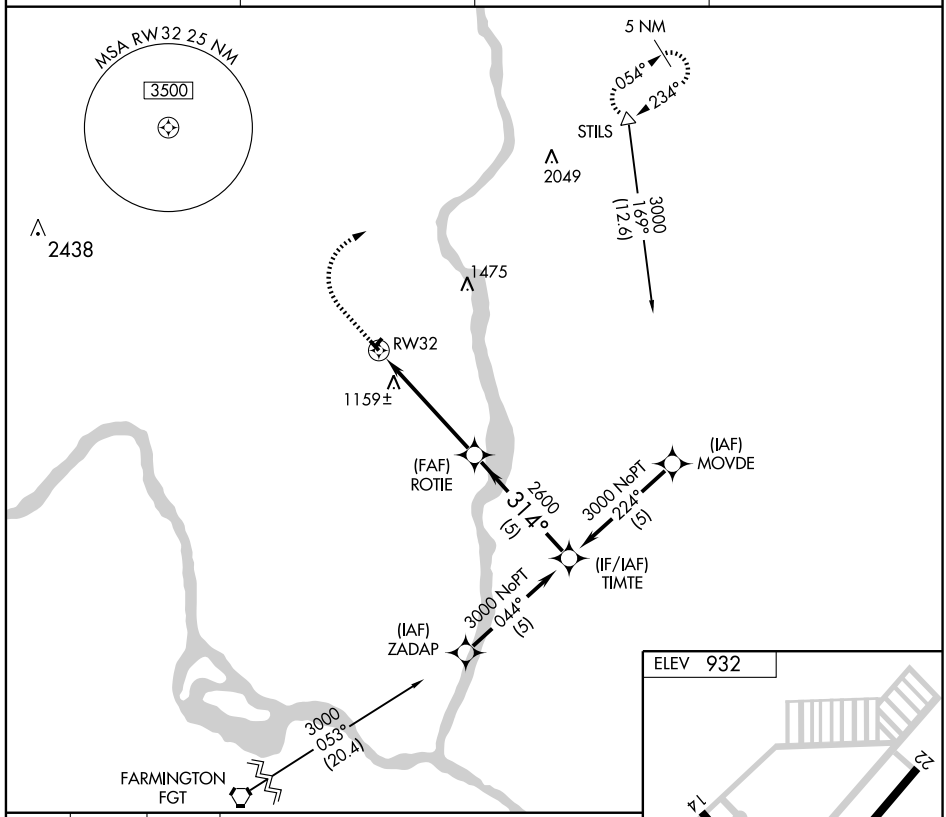
RNAV (GPS) RWY 32

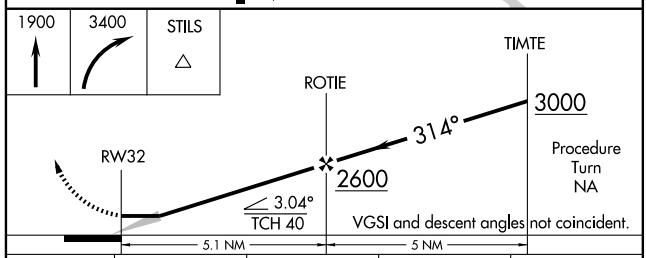
ST. PAUL/LAKE ELMO (21D)

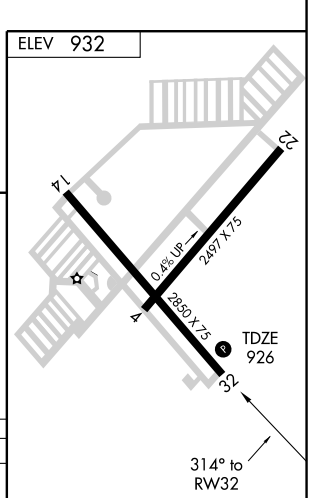
DME/DME RNP- 0.3 NA.
When local altimeter setting not received, use St. Paul Downtown Holman Field altimeter setting.

MISSED APPROACH: Climb to 1900 then climbing right turn to 3400 direct STILS WP and hold.

AWOS-3	MINNEAPOLIS APP CON	CLNC DEL	UNICOM
120.075	121.2	118.625	122.8 (CTAF) L







REIL Rwys 14 and 32 L
MIRL Rwy 14-32

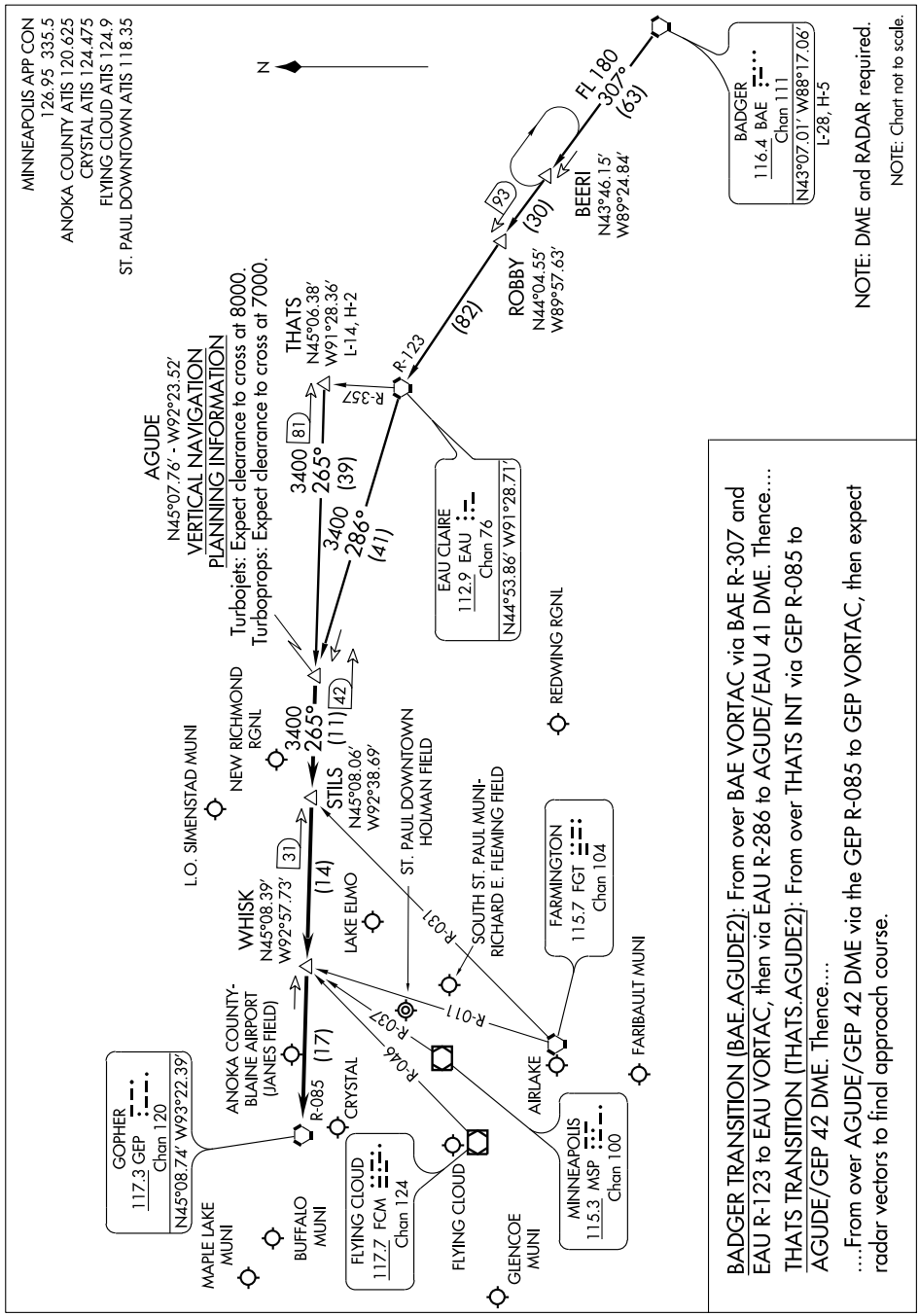
CATEGORY	A	B	C	D
LNAV MDA	1480-1 554 (600-1)		1480-1½ 554 (600-1½)	NA
CIRCLING	1500-1 568 (600-1)	1540-1 608 (700-1)	1540-1¾ 608 (700-1¾)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

AGUDE TWO ARRIVAL

ST-263 (FAA)

MINNEAPOLIS-ST. PAUL, MINNESOTA



BADGER TRANSITION (BAE.AGUDE2): From over BAE VORTAC via BAE R-307 and EAU R-123 to EAU VORTAC, then via EAU R-286 to AGUDE/EAU 41 DME. Thence....

THATS TRANSITION (THATS.AGUDE2): From over THATS INT via GEP R-085 to AGUDE/GEP 42 DME. Thence....

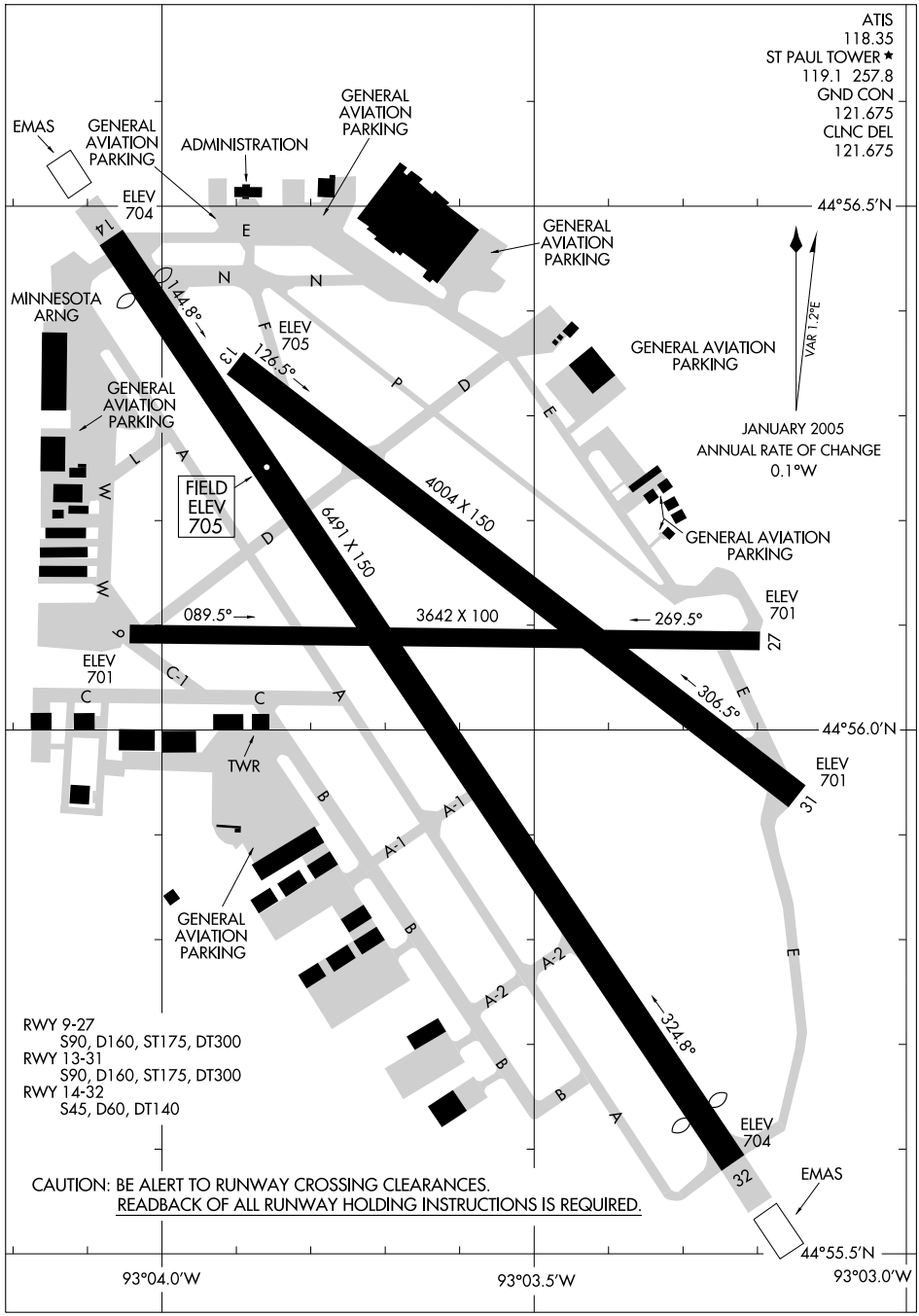
....From over AGUDE/GEP 42 DME via the GEP R-085 to GEP VORTAC, then expect radar vectors to final approach course.

AIRPORT DIAGRAM

AL-263 (FAA)

ST. PAUL DOWNTOWN HOLMAN FIELD (STP)

ST. PAUL, MINNESOTA



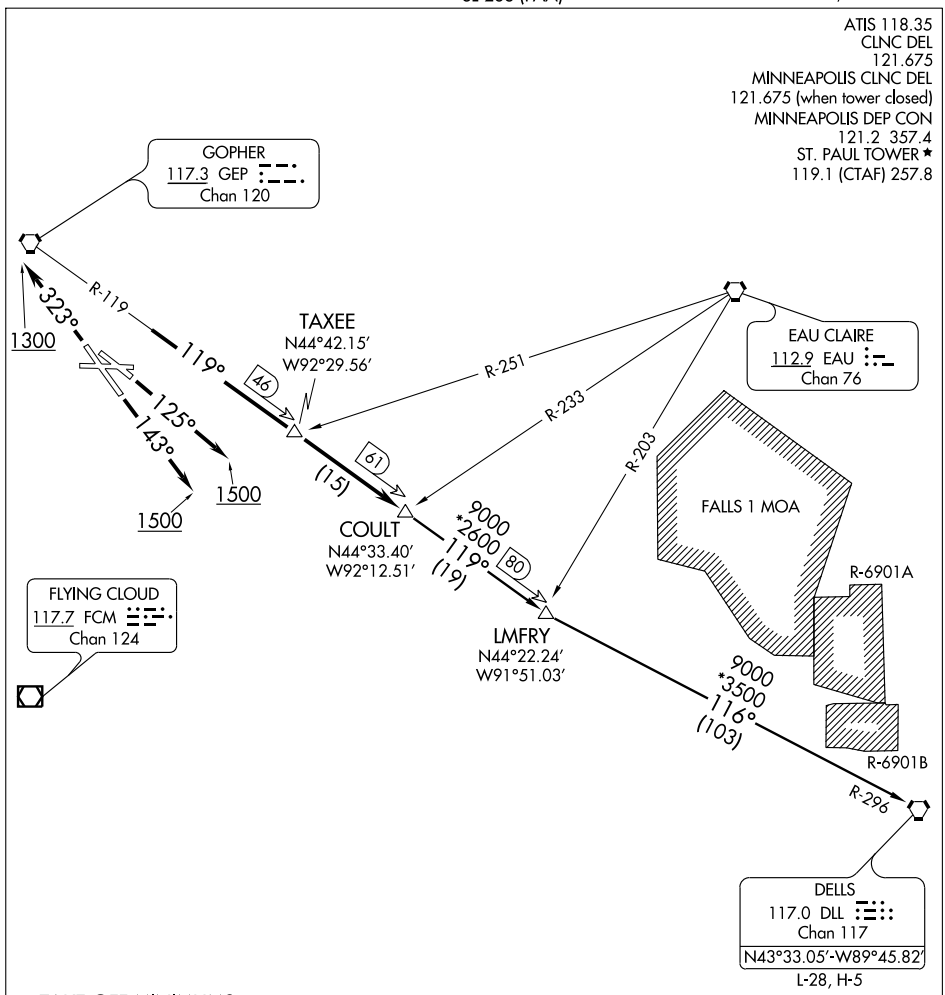
RWY 9-27
S90, D160, ST175, DT300
RWY 13-31
S90, D160, ST175, DT300
RWY 14-32
S45, D60, DT140

CAUTION: BE ALERT TO RUNWAY CROSSING CLEARANCES.
READBACK OF ALL RUNWAY HOLDING INSTRUCTIONS IS REQUIRED.

NC-1, 08 APR 2010 to 06 MAY 2010

COULT THREE DEPARTURE

ST. PAUL DOWNTOWN HOLMAN FIELD (STP)
SL-263 (FAA)
ST. PAUL, MINNESOTA



TAKE-OFF MINIMUMS:

Rwy 9: Standard with minimum climb of 346′ per NM to 1500.
Rwy 13: Standard with minimum climb of 266′ per NM to 1500.
Rwy 14: Standard with minimum climb of 216′ per NM to 1500.
Rwy 27: Standard with minimum climb of 436′ per NM to 1500.
Rwy 31: NA-obstacles.
Rwy 32: Standard with minimum climb of 340′ per NM to 3000.

(NARRATIVE ON FOLLOWING PAGE)

NOTE: RADAR required.
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF RUNWAYS 9, 27: Fly assigned heading and altitude for radar vectors to intercept GEP R-119 to COULT INT/GEP 61 DME, thence . . . .
TAKE-OFF RUNWAY 13: Climb heading 125° to 1500 for radar vectors to intercept GEP R-119 to COULT INT/GEP 61 DME, thence . . . .
TAKE-OFF RUNWAY 14: Climb heading 143° to 1500 for radar vectors to intercept GEP R-119 to COULT INT/GEP 61 DME, thence . . . .
TAKE-OFF RUNWAY 32: Climb heading 323° to 1300 for radar vectors to intercept GEP R-119 to COULT INT/GEP 61 DME, thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

DELLS TRANSITION (COULT3.DLL): From over COULT INT via GEP R-119 to LMFRY, then via DLL R-296 to DLL VORTAC.

TAKE-OFF OBSTACLE NOTES:

RWY 9: Multiple trees beginning 1265′ from DER, 167′ right of centerline, up to 75′ AGL/1055′ MSL.
Multiple trees beginning 1.1 NM from DER, 124′ left of centerline, up to 100′ AGL/1099′ MSL.
OL tank 1571′ from DER, 771′ right of centerline, 50′ AGL/811′ MSL.
Mobile crane 1163′ from DER, 123′ left of centerline, 50′ AGL/758′ MSL.

RWY 13: OL stack 2695′ from DER, 842′ right of centerline, 50′ AGL/820′ MSL.
Tree 1563′ from DER, 25′ right of centerline, 61′ AGL/748′ MSL.
Multiple trees beginning 1004′ from DER, 607′ left of centerline, 50′ AGL/767′ MSL.
Tower 1725′ from DER, 930′ left of centerline, 47′ AGL/753′ MSL
Vent on building 3029′ from DER, 629′ right of centerline, 10′ AGL/783′ MSL.
Multiple bushes beginning 194′ from DER, 88′ left of centerline, 7′ AGL/712′ MSL.
Stack 1879′ from DER, 25′ left of centerline, 51′ AGL/751′ MSL

RWY 14: Multiple trees beginning 805′ from DER, 2′ right of centerline, up to 112′ AGL/811′ MSL.
Multiple trees beginning 1205′ from DER, 64′ left of centerline, up to 80′ AGL/770′ MSL.
Poles 2810′ from DER, 715′ right of centerline, 91′ AGL/778′ MSL.

RWY 27: Multiple trees beginning 803′ from DER, 122′ left of centerline, up to 100′ AGL/994′ MSL.
Tree 783′ from DER, 105′ right of centerline, 25′ AGL/725′ MSL.
OL antenna 996′ from DER, 304′ right of centerline, 67′ AGL/767′ MSL.
Light pole 1328′ from DER, 222′ left of centerline, 50′ AGL/747′ MSL.
Building 2049′ from DER, 837′ right of centerline, 57′ AGL/761′ MSL.
Flagpole 2333′ from DER, 199′ left of centerline, 78′ AGL/778′ MSL.
Stack 1.8 NM from DER, 635′ left of centerline, 569′ AGL/1279′ MSL.

RWY 32: Road and vehicle 211′ from DER, 482′ left of centerline, 17′ AGL/717′ MSL.
Railroad beginning 369′ from DER, 329′ left of centerline, up to 23′ AGL/727′ MSL.
Pipe on DME 383′ from DER, 269′ right of centerline, 17′ AGL/722′ MSL.
Tree 1152′ from DER, 209′ left of centerline, 44′ AGL/744′ MSL.
Tree 1685′ from DER, 277′ right of centerline, 75′ AGL/770′ MSL.
Sign 5668′ from DER, 1924′ left of centerline, 86′ AGL/874′ MSL.
Trees 5614′ from DER, 1796′ right of centerline, 100′ AGL/939′ MSL.
Building 5779′ from DER, 1733′ right of centerline, 72′ AGL/910′ MSL.
Pole 1 NM from DER, 1835′ right of centerline, 157′ AGL/973′ MSL.
Building 1.1 NM from DER, 2170′ left of centerline, 122′ AGL/886′ MSL.
Multiple buildings beginning 1.1 NM from DER, 378′ left of centerline, up to 142′ AGL/918′ MSL.

NC-1, 08 APR 2010 to 06 MAY 2010

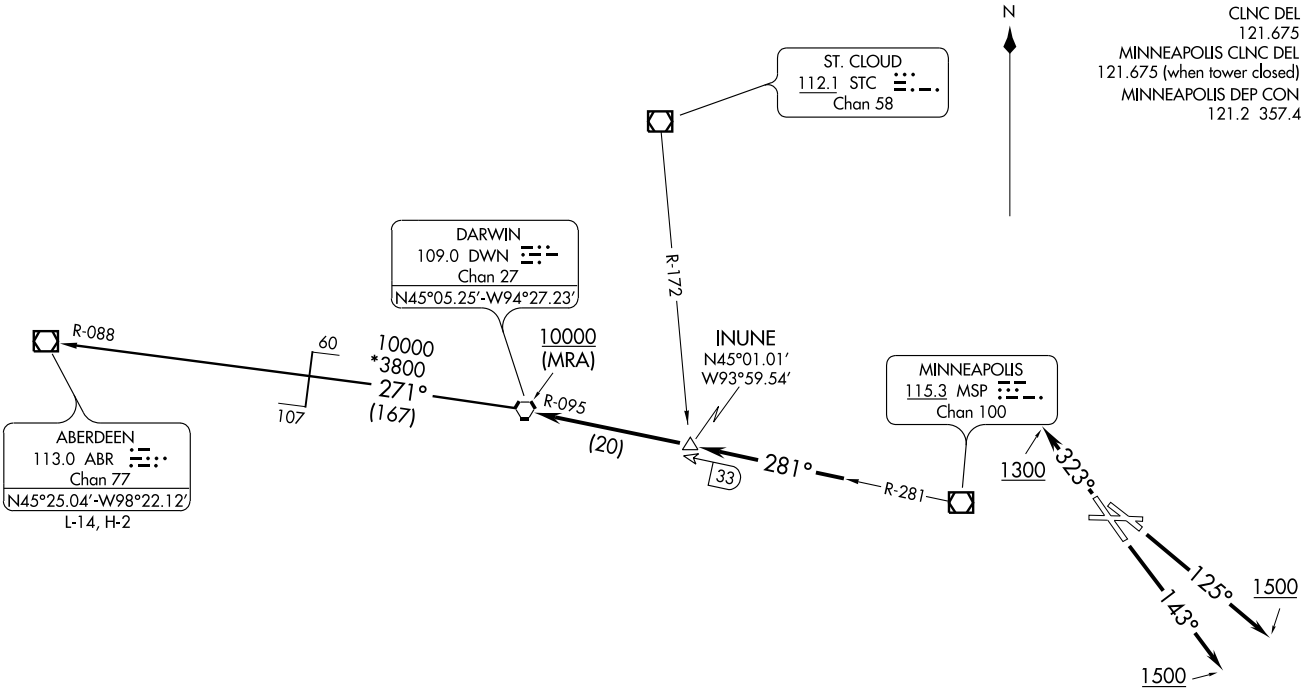
DARWIN THREE DEPARTURE

(DWN3.DWN) 10042

ST. PAUL DOWNTOWN HOLMAN FIELD (STP)
ST. PAUL, MINNESOTA

SL-263 (FAA)

ATIS 118.35
CLNC DEL
121.675
MINNEAPOLIS CLNC DEL
121.675 (when tower closed)
MINNEAPOLIS DEP CON
121.2 357.4



TAKE-OFF MINIMUMS

Rwy 9: Standard with minimum climb of 346′ per NM to 1500.
Rwy 13: Standard with minimum climb of 266′ per NM to 1500.
Rwy 14: Standard with minimum climb of 216′ per NM to 1500.
Rwy 27: Standard with minimum climb of 436′ per NM to 1500.
Rwy 32: Standard with minimum climb of 340′ per NM to 3000.
Rwy 31: NA-obstacles.

NOTE: RADAR required.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF RUNWAYS 9, 27: Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-281 and DWN R-095 to DWN VORTAC, thence . . . .

TAKE-OFF RUNWAY 13: Climb heading 125° to 1500 for radar vectors to MSP VOR/DME then via MSP R-281 and DWN R-095 to DWN VORTAC, thence . . . .

TAKE-OFF RUNWAY 14: Climb heading 143° to 1500 for radar vectors to MSP VOR/DME then via MSP R-281 and DWN R-095 to DWN VORTAC, thence . . . .

TAKE-OFF RUNWAY 32: Climb heading 323° to 1300 for radar vectors to MSP VOR/DME then via MSP R-281 and DWN R-095 to DWN VORTAC, thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

ABERDEEN TRANSITION (DWN3.ABR): From over DWN VORTAC via DWN R-271 and ABR R-088 to ABR VOR/DME.

TAKE-OFF OBSTACLE NOTES

RWY 9: Multiple trees beginning 1265′ from DER, 167′ right of centerline, up to 75′ AGL/1055′ MSL.
Multiple trees beginning 1.1 NM from DER, 124′ left of centerline, up to 100′ AGL/1099′ MSL.
OL tank 1571′ from DER, 771′ right of centerline, 50′ AGL/811′ MSL.
Mobile crane 1163′ from DER, 123′ left of centerline, 50′ AGL/758′ MSL.

RWY 13: OL stack 2695′ from DER, 842′ right of centerline, 50′ AGL/820′ MSL.
Tree 1563′ from DER, 25′ right of centerline, 61′ AGL/748′ MSL.
Multiple trees beginning 1004′ from DER, 607′ left of centerline, 50′ AGL/767′ MSL.
Tower 1725′ from DER, 930′ left of centerline, 47′ AGL/753′ MSL
Vent on building 3029′ from DER, 629′ right of centerline, 10′ AGL/783′ MSL.
Multiple bushes beginning 194′ from DER, 88′ left of centerline, 7′ AGL/712′ MSL.
Stack 1879′ from DER, 25′ left of centerline, 51′ AGL/751′ MSL

RWY 14: Multiple trees beginning 805′ from DER, 2′ right of centerline, up to 112′ AGL/811′ MSL.
Multiple trees beginning 1205′ from DER, 64′ left of centerline, up to 80′ AGL/770′ MSL.
Poles 2810′ from DER, 715′ right of centerline, 91′ AGL/778′ MSL.

RWY 27: Multiple trees beginning 803′ from DER, 122′ left of centerline, up to 100′ AGL/994′ MSL.
Tree 783′ from DER, 105′ right of centerline, 25′ AGL/725′ MSL.
OL antenna 996′ from DER, 304′ right of centerline, 67′ AGL/767′ MSL.
Light pole 1328′ from DER, 222′ left of centerline, 50′ AGL/747′ MSL.
Building 2049′ from DER, 837′ right of centerline, 57′ AGL/761′ MSL.
Flagpole 2333′ from DER, 199′ left of centerline, 78′ AGL/778′ MSL.
Stack 1.8 NM from DER, 635′ left of centerline, 569′ AGL/1279′ MSL.

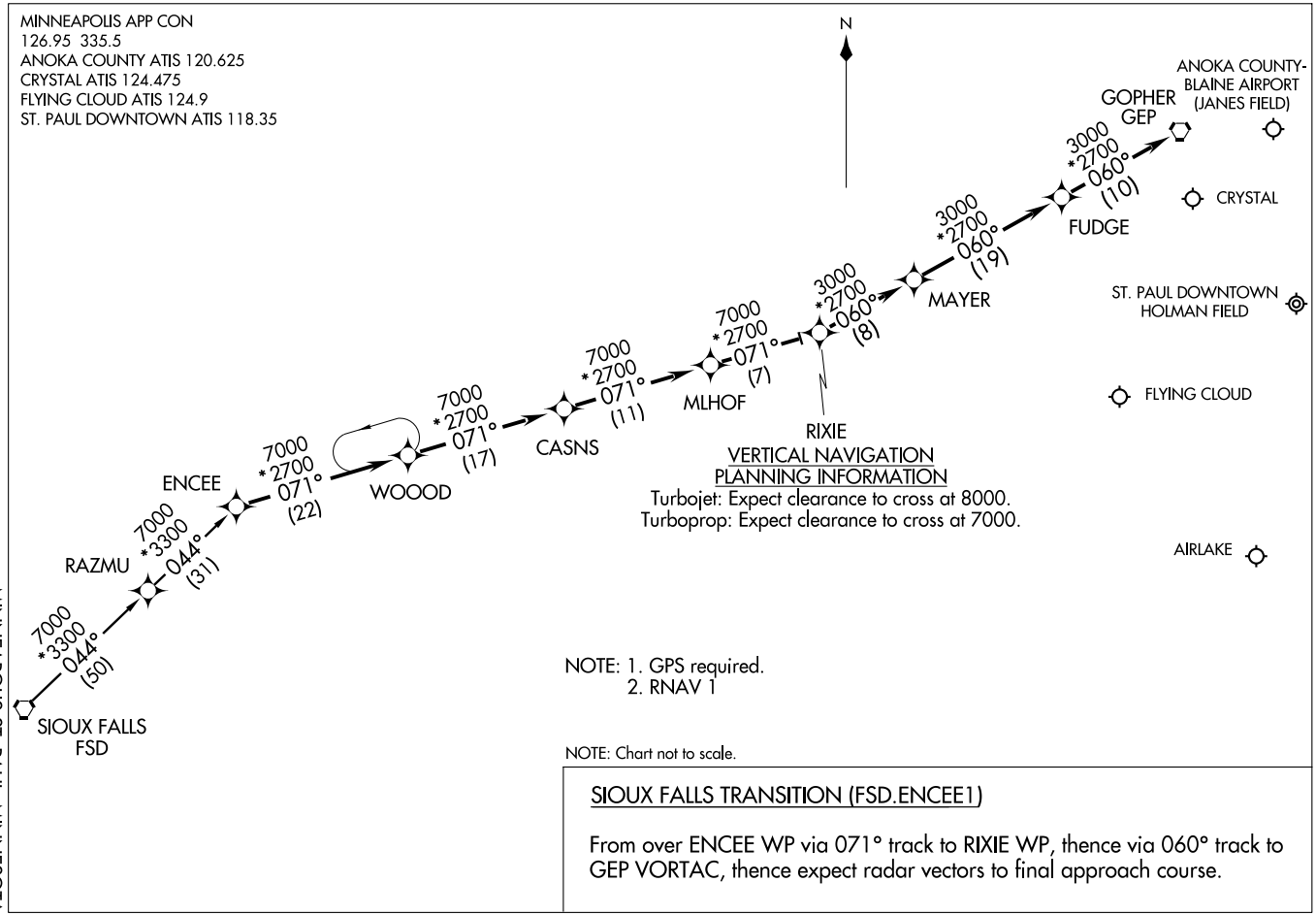
RWY 32: Road and vehicle 211′ from DER, 482′ left of centerline, 17′ AGL/717′ MSL.
Railroad beginning 369′ from DER, 329′ left of centerline, up to 23′ AGL/727′ MSL.
Pipe on DME 383′ from DER, 269′ right of centerline, 17′ AGL/722′ MSL.
Tree 1152′ from DER, 209′ left of centerline, 44′ AGL/744′ MSL.
Tree 1685′ from DER, 277′ right of centerline, 75′ AGL/770′ MSL.
Sign 5668′ from DER, 1924′ left of centerline, 86′ AGL/874′ MSL.
Trees 5614′ from DER, 1796′ right of centerline, 100′ AGL/939′ MSL.
Building 5779′ from DER, 1733′ right of centerline, 72′ AGL/910′ MSL.
Pole 1 NM from DER, 1835′ right of centerline, 157′ AGL/973′ MSL.
Building 1.1 NM from DER, 2170′ left of centerline, 122′ AGL/886′ MSL.
Multiple buildings beginning 1.1 NM from DER, 378′ left of centerline, up to 142′ AGL/918′ MSL.

NC-1, 08 APR 2010 to 06 MAY 2010

ENCEE ONE ARRIVAL (RNAV)

ST-263 (FAA)

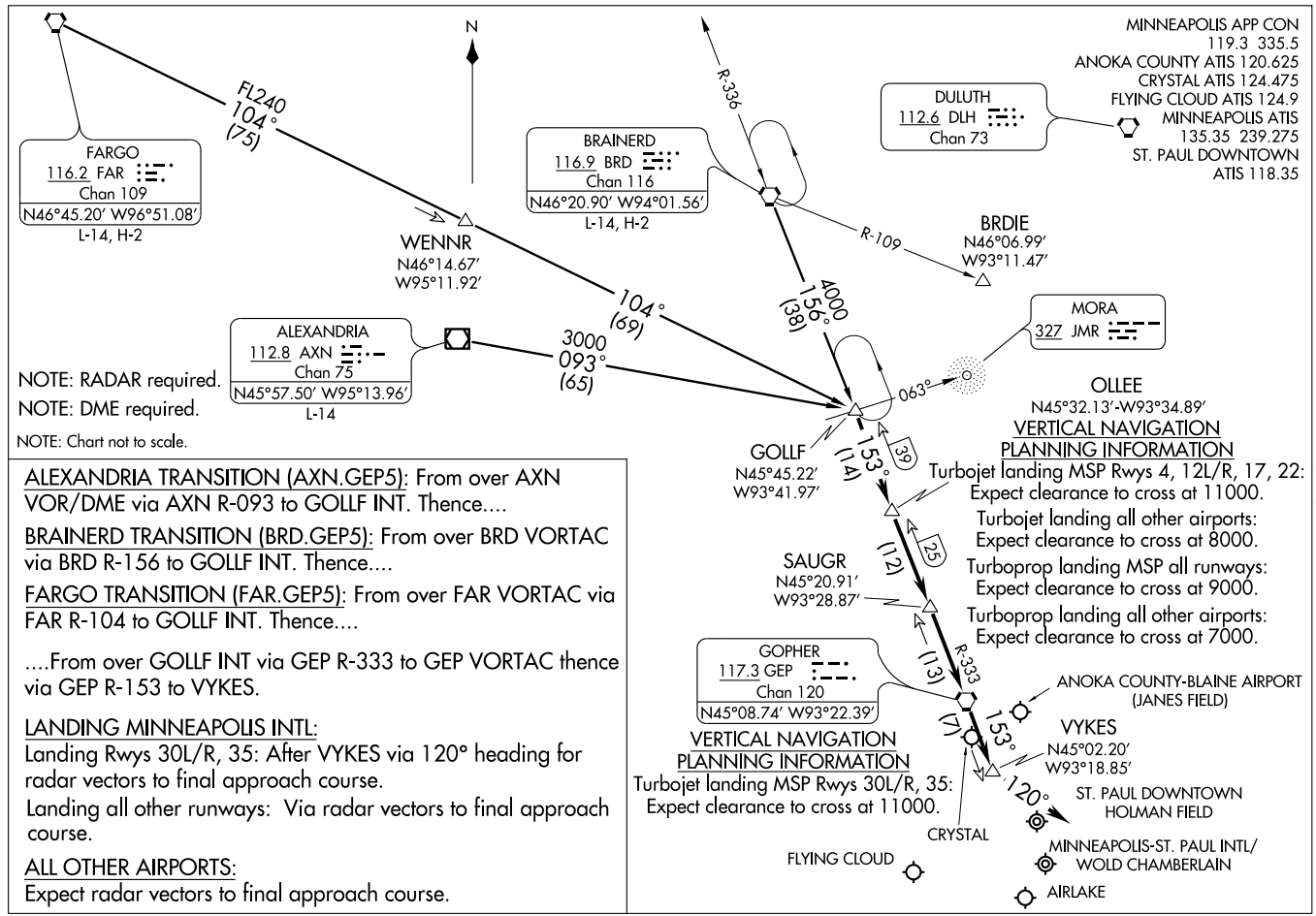
MINNEAPOLIS-ST. PAUL, MINNESOTA



SIOUX FALLS TRANSITION (FSD.ENCEE1)

From over ENCEE WP via 071° track to RIXIE WP, thence via 060° track to GEP VORTAC, thence expect radar vectors to final approach course.

GOPHER FIVE ARRIVAL



NOTE: RADAR required.

NOTE: DME required.

NOTE: Chart not to scale.

VERTICAL NAVIGATION PLANNING INFORMATION

Turbojet landing MSP Rwys 4, 12L/R, 17, 22: Expect clearance to cross at 11000.

Turbojet landing all other airports: Expect clearance to cross at 8000.

Turboprop landing MSP all runways: Expect clearance to cross at 9000.

Turboprop landing all other airports: Expect clearance to cross at 7000.

VERTICAL NAVIGATION PLANNING INFORMATION

Turbojet landing MSP Rwys 30L/R, 35: Expect clearance to cross at 11000.

ALEXANDRIA TRANSITION (AXN.GEP5): From over AXN VOR/DME via AXN R-093 to GOLLF INT. Thence....

BRAINERD TRANSITION (BRD.GEP5): From over BRD VORTAC via BRD R-156 to GOLLF INT. Thence....

FARGO TRANSITION (FAR.GEP5): From over FAR VORTAC via FAR R-104 to GOLLF INT. Thence....

....From over GOLLF INT via GEP R-333 to GEP VORTAC thence via GEP R-153 to VYKES.

LANDING MINNEAPOLIS INTL:

Landing Rwys 30L/R, 35: After VYKES via 120° heading for radar vectors to final approach course.

Landing all other runways: Via radar vectors to final approach course.

ALL OTHER AIRPORTS:

Expect radar vectors to final approach course.

ILS or LOC RWY 14
ST. PAUL DOWNTOWN HOLMAN FIELD (STP)

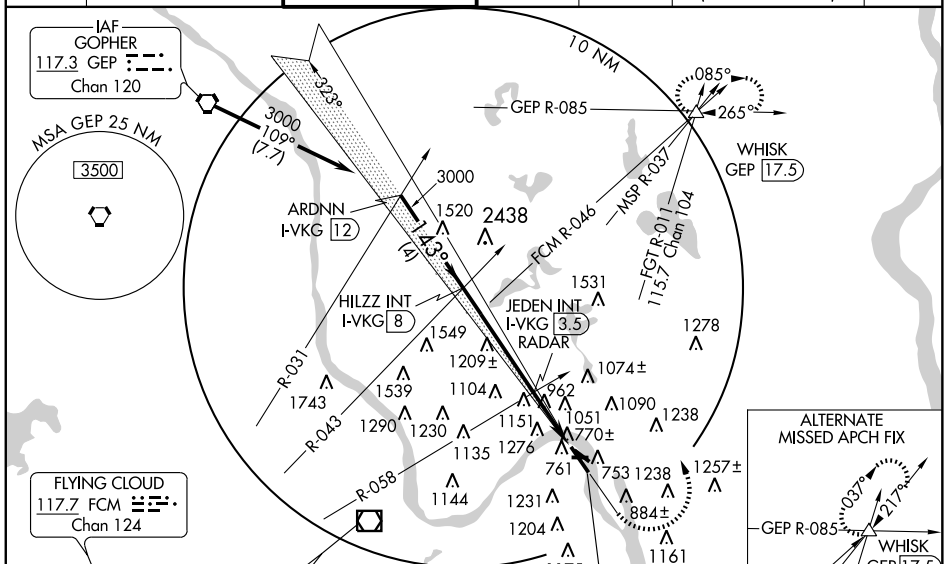
LOC/DME I-VKG	APP CRS	Rwy ldg	6148
111.5	143°	TDZE	705
Chan 52		Apt Elev	705

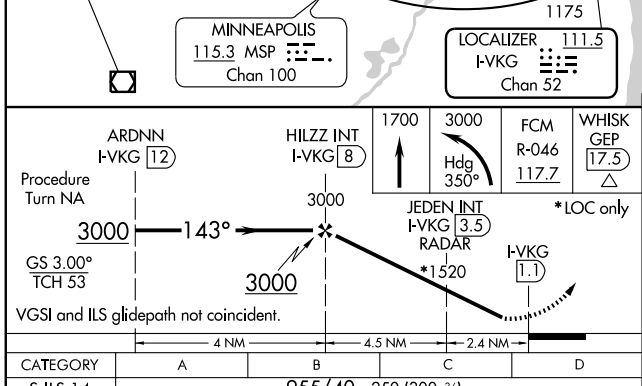
Visibility reduction by helicopters NA. When local altimeter setting not received, use South St. Paul altimeter setting. Inoperative table does not apply to S-ILS 14. For inoperative MALSR increase S-LOC-14 Cat A and B visibility to RVR 5000. JEDEN Fix Minimums: increase S-LOC-14 Cat A and B visibility to RVR 5000.

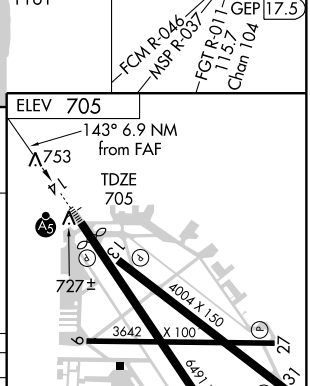
MALSR

MISSED APPROACH: Climb to 1700 then climbing left turn to 3000 via heading 350° and via FCM VOR/DME R-046 to WHISK INT/GEP 17.5 DME and hold.

ATIS	MINNEAPOLIS APP CON	ST. PAUL TOWER ★	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
118.35	121.2 357.4	119.1(CTAF) L 257.8	121.675	121.675	121.675 (when tower closed)	122.95







HIRL Rwy 13-31
HIRL Rwy 14-32 L
MIRL Rwy 9-27
REIL Rwys 31 and 32

CATEGORY	A	B	C	D
S-ILS 14	955/40 250 (300-¾)			
S-LOC 14	1520/40 815 (900-¾)		1520-2 815 (900-2)	1520-2¼ 815 (900-2¼)
CIRCLING	1580-1 875 (900-1)	1580-1¼ 875 (900-1¼)	1580-2½ 875 (900-2½)	1580-2¾ 875 (900-2¾)
JEDEN FIX MINIMUMS				
S-LOC 14	1360/40 655 (700-¾)		1360/60 655 (700-1¼)	1360-1½ 655 (700-1½)
CIRCLING	1580-1 875 (900-1)	1580-1¼ 875 (900-1¼)	1580-2½ 875 (900-2½)	1580-2¾ 875 (900-2¾)

FAF to MAP 6.9 NM

Knots	60	90	120	150	180
Min:Sec	6:54	4:36	3:27	2:46	2:18

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ILS or LOC RWY 32

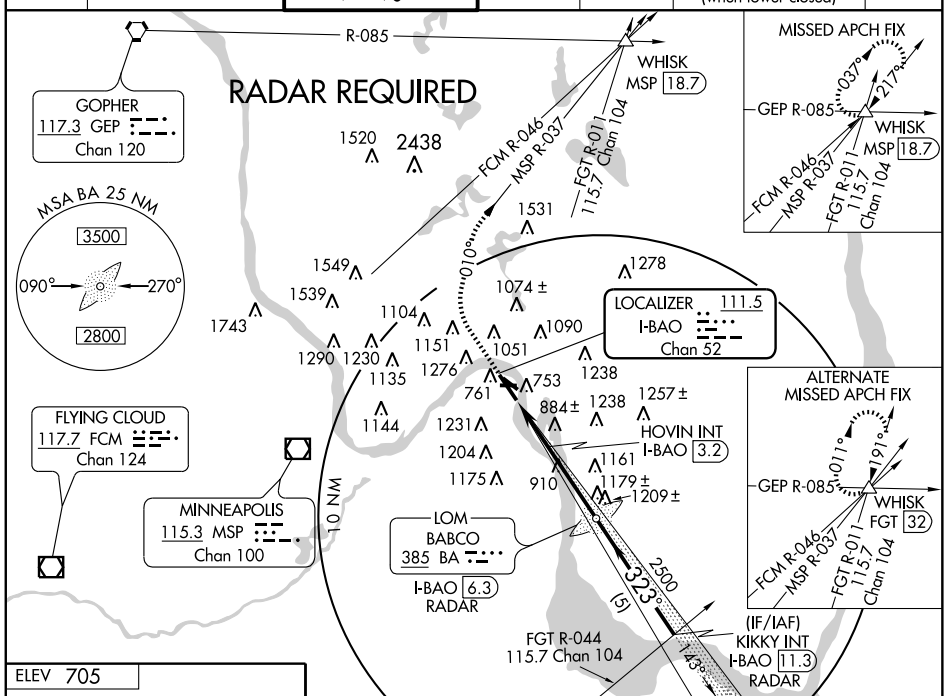
ST. PAUL DOWNTOWN HOLMAN FIELD (STP)

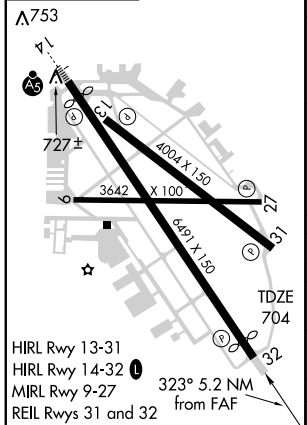
LOC/DME I-BAO	APP CRS	Rwy ldg	6109
111.5	323°	TDZE	704
Chan 52		Apt Elev	705

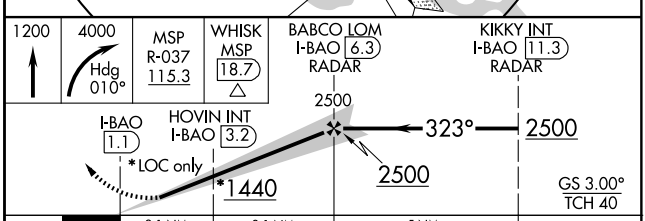
Visibility reduction by helicopters NA. When local altimeter setting not received, use South St. Paul Muni altimeter setting. Radar or DME required.

MISSED APPROACH: Climb to 1200 then climbing right turn to 4000 via heading 010° and MSP R-037 to WHISK INT/MSP 18.7 DME and hold.

ATIS	MINNEAPOLIS APP CON	ST. PAUL TOWER ★	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
118.35	121.2 357.4	119.1(CTAF) L 257.8	121.675	121.675	121.675 (when tower closed)	122.95







CATEGORY	A	B	C	D
S-ILS 32	954/50 250 (300-1)			
S-LOC 32	1440/50 736 (800-1)		1440-2 736 (800-2)	1440-2¼ 736 (800-2¼)
CIRCLING	1580-1 875 (900-1)	1580-1¼ 875 (900-1¼)	1580-2½ 875 (900-2½)	1580-2¾ 875 (900-2¾)
HOVIN FIX MINIMUMS				
S-LOC 32	1280/50 576 (600-1)		1280-1½ 576 (600-1½)	1280-1¾ 576 (600-1¾)
CIRCLING	1580-1 875 (900-1)	1580-1¼ 875 (900-1¼)	1580-2½ 875 (900-2½)	1580-2¾ 875 (900-2¾)

FAF to MAP 5.2 NM

Knots	60	90	120	150	180
Min:Sec	5:12	3:28	2:36	2:05	1:44

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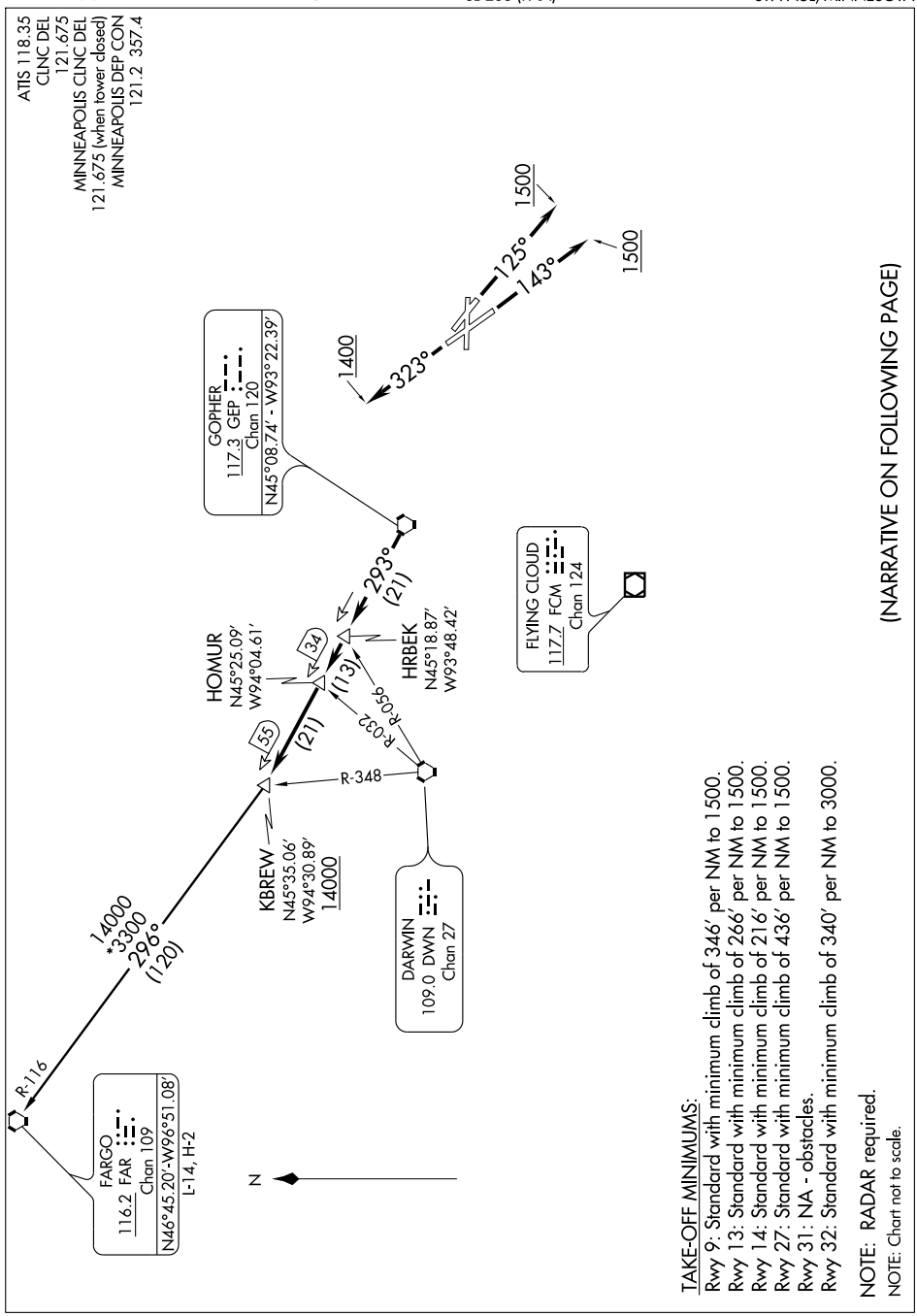
KBREW THREE DEPARTURE

ST.PAUL DOWNTOWN HOLMAN FIELD (STP)
SL-263 (FAA)
ST. PAUL, MINNESOTA



(NARRATIVE ON FOLLOWING PAGE)

TAKE-OFF MINIMUMS:
Rwy 9: Standard with minimum climb of 346' per NM to 1500.
Rwy 13: Standard with minimum climb of 266' per NM to 1500.
Rwy 14: Standard with minimum climb of 216' per NM to 1500.
Rwy 27: Standard with minimum climb of 436' per NM to 1500.
Rwy 31: NA - obstacles.
Rwy 32: Standard with minimum climb of 340' per NM to 3000.

NOTE: RADAR required.
NOTE: Chart not to scale.

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF RUNWAYS 9, 27: Fly assigned heading and altitude for radar vectors to GEP VORTAC then via GEP R-293 to KBREW INT/ GEP 55 DME, thence . . . .

TAKE-OFF RUNWAY 13: Climb heading 125° to 1500 for radar vectors to GEP VORTAC then via GEP R-293 to KBREW INT/ GEP 55 DME, thence . . . .

TAKE-OFF RUNWAY 14: Climb heading 143° to 1500 for radar vectors to GEP VORTAC then via GEP R-293 to KBREW INT/ GEP 55 DME, thence . . . .

TAKE-OFF RUNWAY 32: Climb heading 323° to 1400 for radar vectors to GEP VORTAC then via GEP R-293 to KBREW INT/ GEP 55 DME, thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

FARGO TRANSITION (KBREW3.FAR): From over KBREW INT via FAR R-116 to FAR VORTAC.

TAKE-OFF OBSTACLE NOTES:

RWY 9: Multiple trees beginning 1265′ from DER, 167′ right of centerline, up to 75′ AGL/1055′ MSL.
Multiple trees beginning 1.1 NM from DER, 124′ left of centerline, up to 100′ AGL/1099′ MSL.
OL tank 1571′ from DER, 771′ right of centerline, 50′ AGL/811′ MSL.
Mobile crane 1163′ from DER, 123′ left of centerline, 50′ AGL/758′ MSL.

RWY 13: OL stack 2695′ from DER, 842′ right of centerline, 50′ AGL/820′ MSL.
Tree 1563′ from DER, 25′ right of centerline, 61′ AGL/748′ MSL.
Multiple trees beginning 1004′ from DER, 607′ left of centerline, 50′ AGL/767′ MSL.
Tower 1725′ from DER, 930′ left of centerline, 47′ AGL/753′ MSL
Vent on building 3029′ from DER, 629′ right of centerline, 10′ AGL/783′ MSL.
Multiple bushes beginning 194′ from DER, 88′ left of centerline, 7′ AGL/712′ MSL.
Stack 1879′ from DER, 25′ left of centerline, 51′ AGL/751′ MSL

RWY 14: Multiple trees beginning 805′ from DER, 2′ right of centerline, up to 112′ AGL/811′ MSL.
Multiple trees beginning 1205′ from DER, 64′ left of centerline, up to 80′ AGL/770′ MSL.
Poles 2810′ from DER, 715′ right of centerline, 91′ AGL/778′ MSL.

RWY 27: Multiple trees beginning 803′ from DER, 122′ left of centerline, up to 100′ AGL/994′ MSL.
Tree 783′ from DER, 105′ right of centerline, 25′ AGL/725′ MSL.
OL antenna 996′ from DER, 304′ right of centerline, 67′ AGL/767′ MSL.
Light pole 1328′ from DER, 222′ left of centerline, 50′ AGL/747′ MSL.
Building 2049′ from DER, 837′ right of centerline, 57′ AGL/761′ MSL.
Flagpole 2333′ from DER, 199′ left of centerline, 78′ AGL/778′ MSL.
Stack 1.8 NM from DER, 635′ left of centerline, 569′ AGL/1279′ MSL.

RWY 32: Road and vehicle 211′ from DER, 482′ left of centerline, 17′ AGL/717′ MSL.
Railroad beginning 369′ from DER, 329′ left of centerline, up to 23′ AGL/727′ MSL.
Pipe on DME 383′ from DER, 269′ right of centerline, 17′ AGL/722′ MSL.
Tree 1152′ from DER, 209′ left of centerline, 44′ AGL/744′ MSL.
Tree 1685′ from DER, 277′ right of centerline, 75′ AGL/770′ MSL.
Sign 5668′ from DER, 1924′ left of centerline, 86′ AGL/874′ MSL.
Trees 5614′ from DER, 1796′ right of centerline, 100′ AGL/939′ MSL.
Building 5779′ from DER, 1733′ right of centerline, 72′ AGL/910′ MSL.
Pole 1 NM from DER, 1835′ right of centerline, 157′ AGL/973′ MSL.
Building 1.1 NM from DER, 2170′ left of centerline, 122′ AGL/886′ MSL.
Multiple buildings beginning 1.1 NM from DER, 378′ left of centerline, up to 142′ AGL/918′ MSL.

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NDB PPI	APP CRS	Rwy ldg	4004
400	304°	TDZE	704
		Apt Elev	705

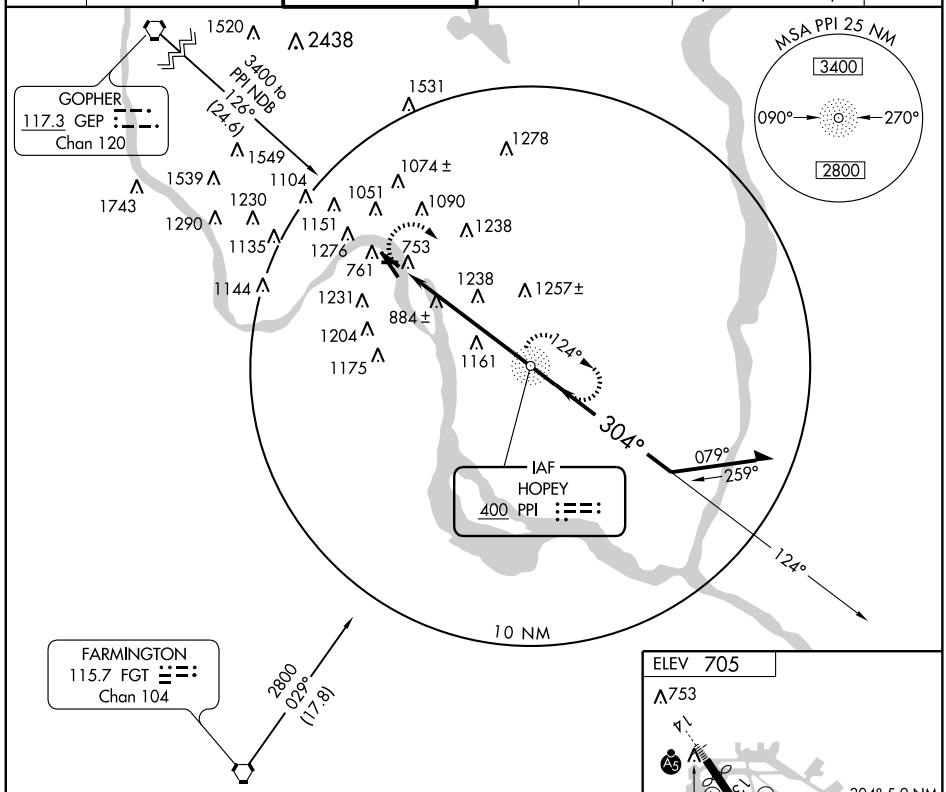
NDB RWY 31

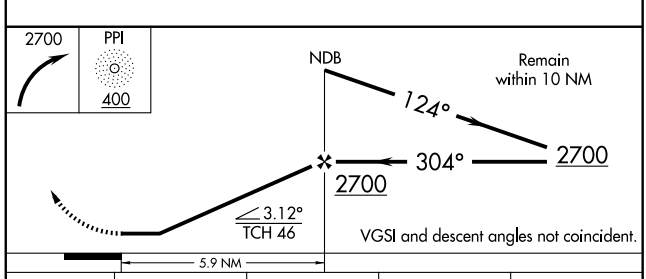
ST. PAUL DOWNTOWN HOLMAN FIELD (STP)

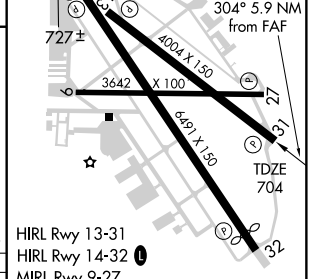
NA

MISSED APPROACH: Climbing right turn to 2700 direct PPI NDB and hold.

ATIS	MINNEAPOLIS APP CON	ST. PAUL TOWER ★	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
118.35	121.2 357.4	119.1(CTAF) L 257.8	121.675	121.675	121.675 (when tower closed)	122.95







HIRL Rwy 13-31
HIRL Rwy 14-32 L
MIRL Rwy 9-27
REIL Rwys 31 and 32

CATEGORY	A	B	C	D
S-31	1600-1¼ 896 (900-1¼)		1600-2¾ 896 (900-2¾)	1600-3 896 (900-3)
CIRCLING	1600-1¼ 895 (900-1¼)		1600-2¾ 895 (900-2¾)	1600-3 895 (900-3)

FAF to MAP 5.9 NM

Knots	60	90	120	150	180
Min:Sec	5:54	3:56	2:57	2:22	1:58

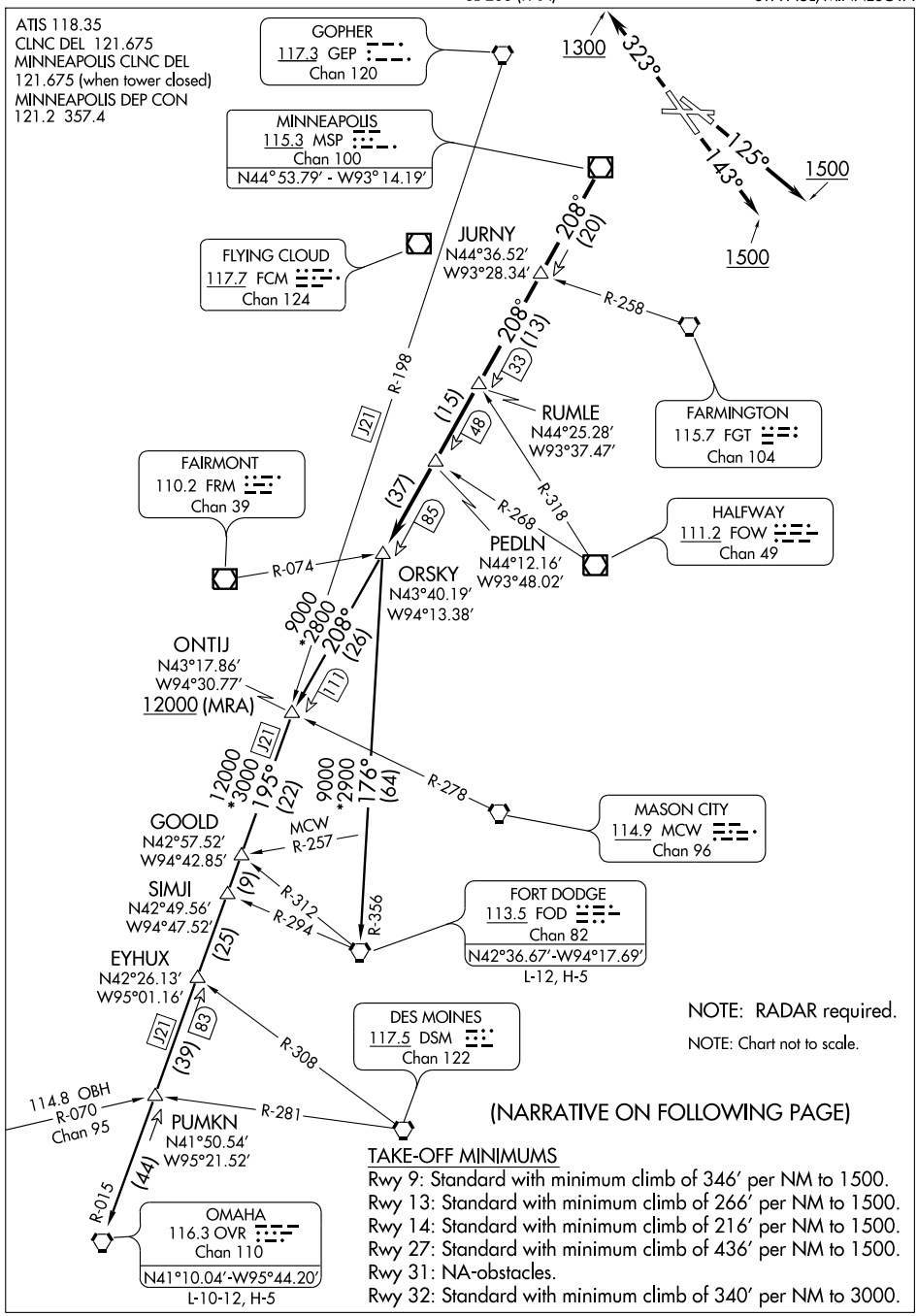
NC-1. 08 APR 2010 to 06 MAY 2010

(ORSKY4.ORSKY) 10098

ORSKY FOUR DEPARTURE

ST.PAUL DOWNTOWN HOLMAN FIELD (STP)
SL-263 (FAA)
ST. PAUL, MINNESOTA

ATIS 118.35
CLNC DEL 121.675
MINNEAPOLIS CLNC DEL
121.675 (when tower closed)
MINNEAPOLIS DEP CON
121.2 357.4



NOTE: RADAR required.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

TAKE-OFF MINIMUMS

Rwy 9: Standard with minimum climb of 346′ per NM to 1500.
Rwy 13: Standard with minimum climb of 266′ per NM to 1500.
Rwy 14: Standard with minimum climb of 216′ per NM to 1500.
Rwy 27: Standard with minimum climb of 436′ per NM to 1500.
Rwy 31: NA-obstacles.
Rwy 32: Standard with minimum climb of 340′ per NM to 3000.

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DEPARTURE ROUTE DESCRIPTON

TAKE-OFF RUNWAYS 9, 27: Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-208 to ORSKY INT/ MSP 85 DME, thence....

TAKE-OFF RUNWAY 13: Climb heading 125° to 1500 for radar vectors to MSP VOR/DME then via MSP R-208 to ORSKY INT/ MSP 85 DME, thence....

TAKE-OFF RUNWAY 14: Climb heading 143° to 1500 for radar vectors to MSP VOR/DME then via MSP R-208 to ORSKY INT/ MSP 85 DME, thence....

TAKE-OFF RUNWAY 32: Climb heading 323° to 1300 for radar vectors to MSP VOR/DME then via MSP R-208 to ORSKY INT/ MSP 85 DME, thence....

....via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

FORT DODGE TRANSITION (ORSKY4.FOD): From over ORSKY INT via FOD R-356 to FOD VORTAC.

OMAHA TRANSITION (ORSKY4.OVR): From over ORSKY INT via MSP R-208 to ONTIJ INT then via OVR R-015 to OVR VORTAC.

TAKE-OFF OBSTACLE NOTES

RWY 9: Multiple trees beginning 1265′ from DER, 167′ right of centerline, up to 75′ AGL/1055′ MSL.
Multiple trees beginning 1.1 NM from DER, 124′ left of centerline, up to 100′ AGL/1099′ MSL.
OL tank 1571′ from DER, 771′ right of centerline, 50′ AGL/811′ MSL.
Mobile crane 1163′ from DER, 123′ left of centerline, 50′ AGL/758′ MSL.

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Multiple trees beginning 1004′ from DER, 607′ left of centerline, 50′ AGL/767′ MSL.
Tower 1725′ from DER, 930′ left of centerline, 47′ AGL/753′ MSL
Vent on building 3029′ from DER, 629′ right of centerline, 10′ AGL/783′ MSL.
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Stack 1879′ from DER, 25′ left of centerline, 51′ AGL/751′ MSL

RWY 14: Multiple trees beginning 805′ from DER, 2′ right of centerline, up to 112′ AGL/811′ MSL.
Multiple trees beginning 1205′ from DER, 64′ left of centerline, up to 80′ AGL/770′ MSL.
Poles 2810′ from DER, 715′ right of centerline, 91′ AGL/778′ MSL.

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Tree 783′ from DER, 105′ right of centerline, 25′ AGL/725′ MSL.
OL antenna 996′ from DER, 304′ right of centerline, 67′ AGL/767′ MSL.
Light pole 1328′ from DER, 222′ left of centerline, 50′ AGL/747′ MSL.
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Stack 1.8 NM from DER, 635′ left of centerline, 569′ AGL/1279′ MSL.

RWY 32: Road and vehicle 211′ from DER, 482′ left of centerline, 17′ AGL/717′ MSL.
Railroad beginning 369′ from DER, 329′ left of centerline, up to 23′ AGL/727′ MSL.
Pipe on DME 383′ from DER, 269′ right of centerline, 17′ AGL/722′ MSL.
Tree 1152′ from DER, 209′ left of centerline, 44′ AGL/744′ MSL.
Tree 1685′ from DER, 277′ right of centerline, 75′ AGL/770′ MSL.
Sign 5668′ from DER, 1924′ left of centerline, 86′ AGL/874′ MSL.
Trees 5614′ from DER, 1796′ right of centerline, 100′ AGL/939′ MSL.
Building 5779′ from DER, 1733′ right of centerline, 72′ AGL/910′ MSL.
Pole 1 NM from DER, 1835′ right of centerline, 157′ AGL/973′ MSL.
Building 1.1 NM from DER, 2170′ left of centerline, 122′ AGL/886′ MSL.
Multiple buildings beginning 1.1 NM from DER, 378′ left of centerline, up to 142′ AGL/918′ MSL.

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APP CRS	Rwy ldg	6148
143°	TDZE	705
	Apt Elev	705

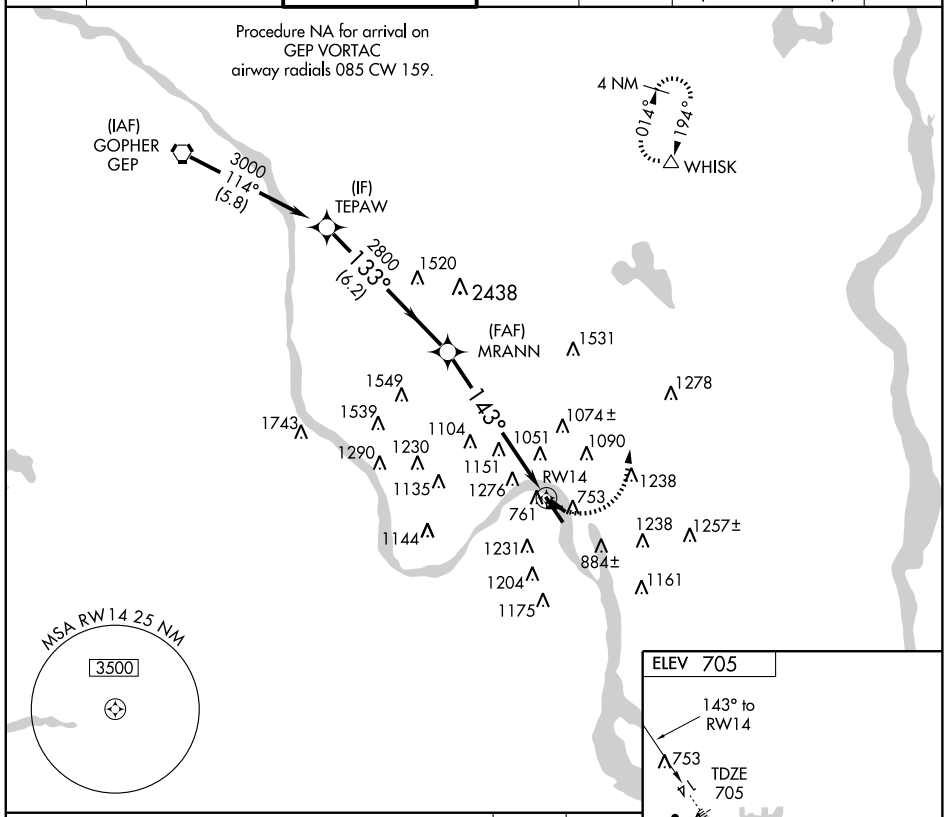
RNAV (GPS) RWY 14
ST. PAUL DOWNTOWN HOLMAN FIELD (STP)

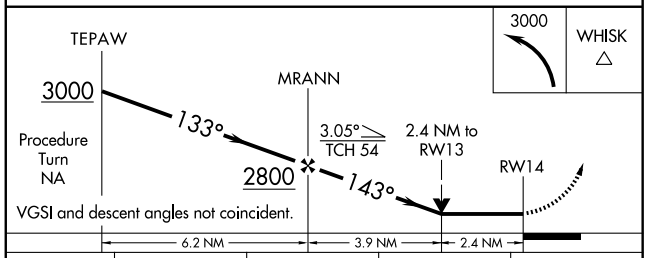
DME/DME RNP-0.3 NA.
Circling to Rwy 9, 13, 27 NA at night.
Straight-in minimums NA at night.

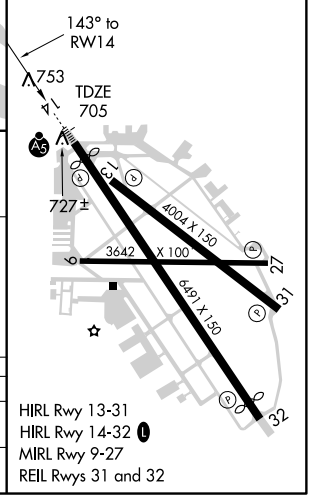
MALSR

MISSED APPROACH: Climbing left turn to 3000 direct WHISK and hold.

ATIS	MINNEAPOLIS APP CON	ST. PAUL TOWER ★	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
118.35	121.2 357.4	119.1(CTAF) L 257.8	121.675	121.675	121.675 (when tower closed)	122.95







CATEGORY	A	B	C	D
LNAV MDA	1520-1 815 (900-1)	1520-1¼ 815 (900-1¼)	1520-2½ 815 (900-2½)	1520-2¾ 815 (900-2¾)
CIRCLING	1580-1 875 (900-1)	1580-1¼ 875 (900-1¼)	1580-2½ 875 (900-2½)	1580-2¾ 875 (900-2¾)

NC-1. 08 APR 2010 to 06 MAY 2010

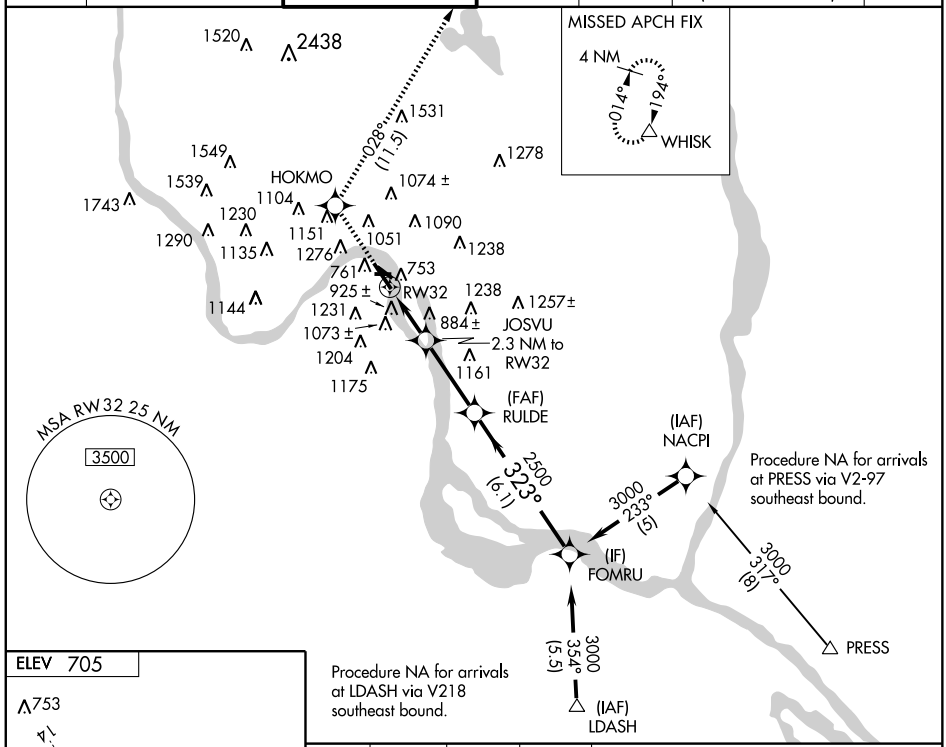
WAAS CH 50123 W32A	APP CRS 323°	Rwy ldg 6109 TDZE 704 Apt Elev 705

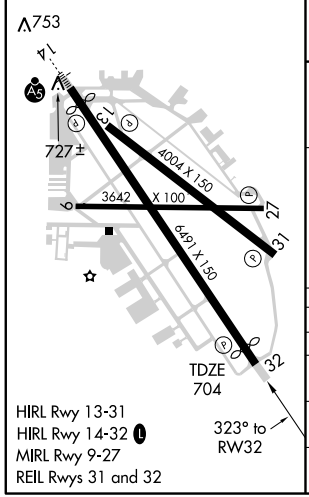
RNAV (GPS) RWY 32
ST. PAUL DOWNTOWN HOLMAN FIELD (STP)

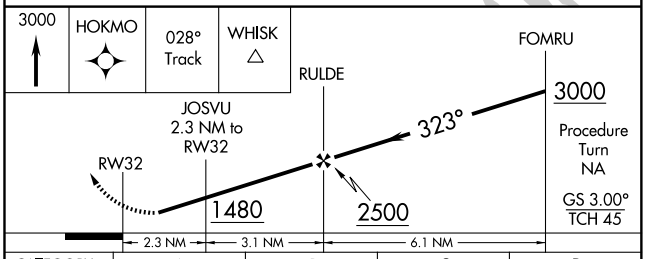
DME/DME RNP-0.3 NA.
Baro-VNAV NA below -16°C (4°F).
Circling to Rwy 9, 13, 27 NA at night.

MISSED APPROACH: Climb to 3000 direct HOKMO and via 028° track to WHISK and hold.

ATIS	MINNEAPOLIS APP CON	ST. PAUL TOWER ★	GND CON	CLNC DEL	MINNEAPOLIS CLNC DEL	UNICOM
118.35	121.2 357.4	119.1(CTAF) L 257.8	121.675	121.675	121.675 (when tower closed)	122.95







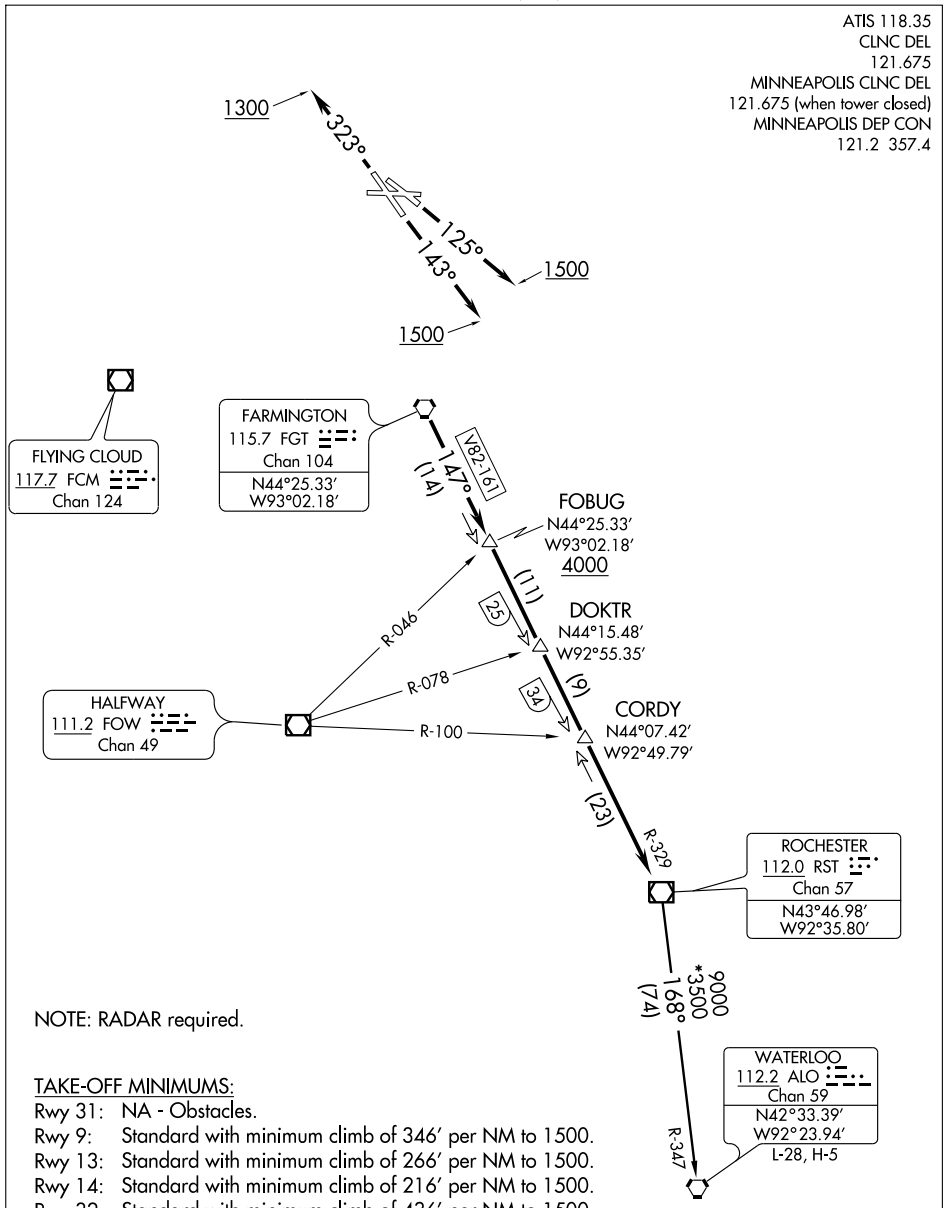
CATEGORY	A	B	C	D
LPV DA	1082-1¼ 378 (400-1¼)			
LNAV/VNAV DA	1377-2½ 673 (700-2½)			
LNAV MDA	1320-1 616 (700-1)		1320-1¾ 616 (700-1¾)	1320-2 616 (700-2)
CIRCLING	1580-2½ 875 (900-2½)			1580-2¾ 875 (900-2¾)

NC-1. 08 APR 2010 to 06 MAY 2010

ROCHESTER FOUR DEPARTURE

ST. PAUL DOWNTOWN HOLMAN FIELD (STP)
SL-263 (FAA)
ST. PAUL, MINNESOTA

ATIS 118.35
CLNC DEL
121.675
MINNEAPOLIS CLNC DEL
121.675 (when tower closed)
MINNEAPOLIS DEP CON
121.2 357.4



NOTE: RADAR required.

TAKE-OFF MINIMUMS:

Rwy 31: NA - Obstacles.
Rwy 9: Standard with minimum climb of 346′ per NM to 1500.
Rwy 13: Standard with minimum climb of 266′ per NM to 1500.
Rwy 14: Standard with minimum climb of 216′ per NM to 1500.
Rwy 32: Standard with minimum climb of 436′ per NM to 1500.
Standard with minimum climb of 340′ per NM to 3000.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF RUNWAYS 9, 27: Fly assigned heading and altitude for radar vectors to FGT VORTAC then via FGT R-147 and RST R-329 to RST VOR/DME. Cross FOBUG INT/ FGT 14 DME at or above 4000, Thence....

TAKE-OFF RUNWAY 13: Climb heading 125° to 1500 for radar vectors to FGT VORTAC then via FGT R-147 and RST R-329 to RST VOR/DME. Cross FOBUG INT/FGT 14 DME at or above 4000, Thence....

TAKE-OFF RUNWAY 14: Climb heading 143° to 1500 for radar vectors to FGT VORTAC then via FGT R-147 and RST R-329 to RST VOR/DME. Cross FOBUG INT/ FGT 14 DME at or above 4000, Thence....

TAKE-OFF RUNWAY 32: Climb heading 323° to 1300 for radar vectors to FGT VORTAC then via FGT R-147 and RST R-329 to RST VOR/DME. Cross FOBUG INT/ FGT 14 DME at or above 4000, Thence....

....via assigned transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

WATERLOO TRANSITION (RST4.ALO): From over RST VOR/DME via RST R-168 and ALO R-347 to ALO VORTAC.

TAKE-OFF OBSTACLE NOTES:

RWY 9: Multiple trees beginning 1265′ from DER, 167′ right of centerline, up to 75′ AGL/1055′ MSL. Multiple trees beginning 1.1 NM from DER, 124′ left of centerline, up to 100′ AGL/1099′ MSL. OL tank 1571′ from DER, 771′ right of centerline, 50′ AGL/811′ MSL. Mobile crane 1163′ from DER, 123′ left of centerline, 50′ AGL/758′ MSL.

RWY 13: OL stack 2695′ from DER, 842′ right of centerline, 50′ AGL/820′ MSL. Tree 1563′ from DER, 25′ right of centerline, 61′ AGL/748′ MSL. Multiple trees beginning 1004′ from DER, 607′ left of centerline, 50′ AGL/767′ MSL. Tower 1725′ from DER, 930′ left of centerline, 47′ AGL/753′ MSL. Vent on building 3029′ from DER, 629′ right of centerline, 10′ AGL/783′ MSL. Multiple bushes beginning 194′ from DER, 88′ left of centerline, 7′ AGL/712′ MSL. Stack 1879′ from DER, 25′ left of centerline, 51′ AGL/751′ MSL.

RWY 14: Multiple trees beginning 805′ from DER, 2′ right of centerline, up to 112′ AGL/811′ MSL. Multiple trees beginning 1205′ from DER, 64′ left of centerline, up to 80′ AGL/770′ MSL. Poles 2810′ from DER, 715′ right of centerline, 91′ AGL/778′ MSL.

RWY 27: Multiple trees beginning 803′ from DER, 122′ left of centerline, up to 100′ AGL/994′ MSL. Tree 783′ from DER, 105′ right of centerline, 25′ AGL/725′ MSL. OL antenna 996′ from DER, 304′ right of centerline, 67′ AGL/767′ MSL. Light pole 1328′ from DER, 222′ left of centerline, 50′ AGL/747′ MSL. Building 2049′ from DER, 837′ right of centerline, 57′ AGL/761′ MSL. Flagpole 2333′ from DER, 199′ left of centerline, 78′ AGL/778′ MSL. Stack 1.8 NM from DER, 635′ left of centerline, 569′ AGL/1279′ MSL.

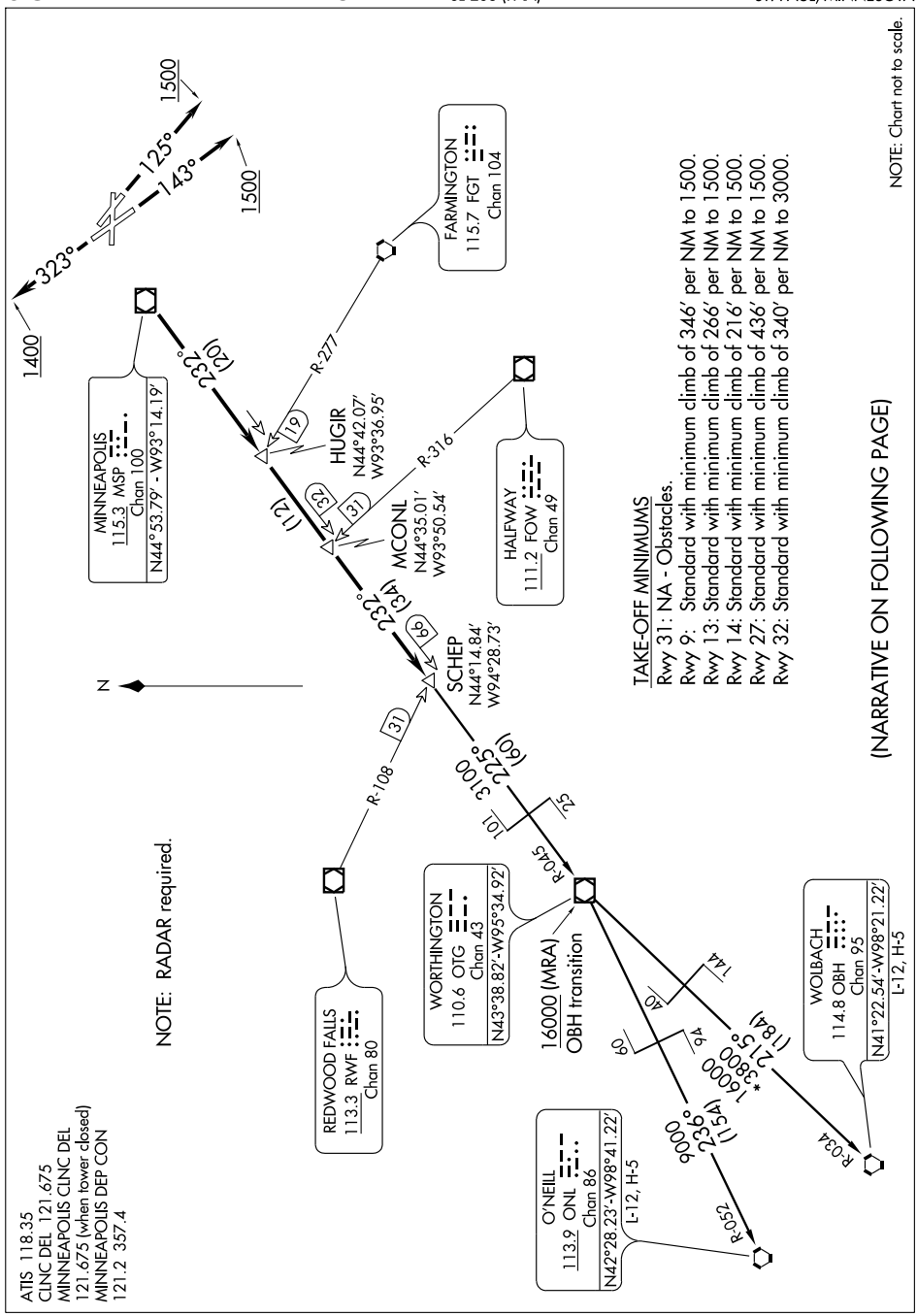
RWY 32: Road and vehicle 211′ from DER, 482′ left of centerline, 17′ AGL/717′ MSL. Railroad beginning 369′ from DER, 329′ left of centerline, up to 23′ AGL/727′ MSL. Pipe on DME 383′ from DER, 269′ right of centerline, 17′ AGL/722′ MSL. Tree 1152′ from DER, 209′ left of centerline, 44′ AGL/744′ MSL. Tree 1685′ from DER, 277′ right of centerline, 75′ AGL/770′ MSL. Sign 5668′ from DER, 1924′ left of centerline, 86′ AGL/874′ MSL. Trees 5614′ from DER, 1796′ right of centerline, 100′ AGL/939′ MSL. Building 5779′ from DER, 1733′ right of centerline, 72′ AGL/910′ MSL. Pole 1 NM from DER, 1835′ right of centerline, 157′ AGL/973′ MSL. Building 1.1 NM from DER, 2170′ left of centerline, 122′ AGL/886′ MSL. Multiple buildings beginning 1.1 NM from DER, 378′ left of centerline, up to 142′ AGL/918′ MSL.

NC-1, 08 APR 2010 to 06 MAY 2010

SCHEP THREE DEPARTURE

SL-263 (FAA)

ST.PAUL DOWNTOWN HOLMAN FIELD (STP)
ST. PAUL, MINNESOTA



V

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF RUNWAYS 9, 27: Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-232 to SCHEP INT/MSP 66 DME,
Thence . . . .

TAKE-OFF RUNWAY 13: Climb heading 125° to 1500 for radar vectors to MSP VOR/DME then via MSP R-232 to SCHEP INT/MSP 66 DME,
Thence . . . .

TAKE-OFF RUNWAY 14: Climb heading 143° to 1500 for radar vectors to MSP VOR/DME then via MSP R-232 to SCHEP INT/MSP 66 DME,
Thence . . . .

TAKE-OFF RUNWAY 32: Climb heading 323° to 1400 for radar vectors to MSP VOR/DME then via MSP R-232 to SCHEP INT/MSP 66 DME,
Thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

O'NEILL TRANSITION (SCHEP3.ONL): From over SCHEP INT via OTG R-045 to OTG VOR/DME, then via OTG R-236 and ONL R-052 to ONL VORTAC.

WOLBACH TRANSITION (SCHEP3.OBH): From over SCHEP INT via OTG R-045 to OTG VOR/DME, then via OTG R-215 and OBH R-034 to OBH VORTAC.

TAKE-OFF OBSTACLE NOTES:

RWY 9: Multiple trees beginning 1265′ from DER, 167′ right of centerline, up to 75′ AGL/1055′ MSL. Multiple trees beginning 1.1 NM from DER, 124′ left of centerline, up to 100′ AGL/1099′ MSL. OL tank 1571′ from DER, 771′ right of centerline, 50′ AGL/811′ MSL. Mobile crane 1163′ from DER, 123′ left of centerline, 50′ AGL/758′ MSL.

RWY 13: OL stack 2695′ from DER, 842′ right of centerline, 50′ AGL/820′ MSL. Tree 1563′ from DER, 25′ right of centerline, 61′ AGL/748′ MSL. Multiple trees beginning 1004′ from DER, 607′ left of centerline, 50′ AGL/767′ MSL. Tower 1725′ from DER, 930′ left of centerline, 47′ AGL/753′ MSL. Vent on building 3029′ from DER, 629′ right of centerline, 10′ AGL/783′ MSL. Multiple bushes beginning 194′ from DER, 88′ left of centerline, 7′ AGL/712′ MSL. Stack 1879′ from DER, 25′ left of centerline, 51′ AGL/751′ MSL.

RWY 14: Multiple trees beginning 805′ from DER, 2′ right of centerline, up to 112′ AGL/811′ MSL. Multiple trees beginning 1205′ from DER, 64′ left of centerline, up to 80′ AGL/770′ MSL. Poles 2810′ from DER, 715′ right of centerline, 91′ AGL/778′ MSL.

RWY 27: Multiple trees beginning 803′ from DER, 122′ left of centerline, up to 100′ AGL/994′ MSL. Tree 783′ from DER, 105′ right of centerline, 25′ AGL/725′ MSL. OL antenna 996′ from DER, 304′ right of centerline, 67′ AGL/767′ MSL. Light pole 1328′ from DER, 222′ left of centerline, 50′ AGL/747′ MSL. Building 2049′ from DER, 837′ right of centerline, 57′ AGL/761′ MSL. Flagpole 2333′ from DER, 199′ left of centerline, 78′ AGL/778′ MSL. Stack 1.8 NM from DER, 635′ left of centerline, 569′ AGL/1279′ MSL.

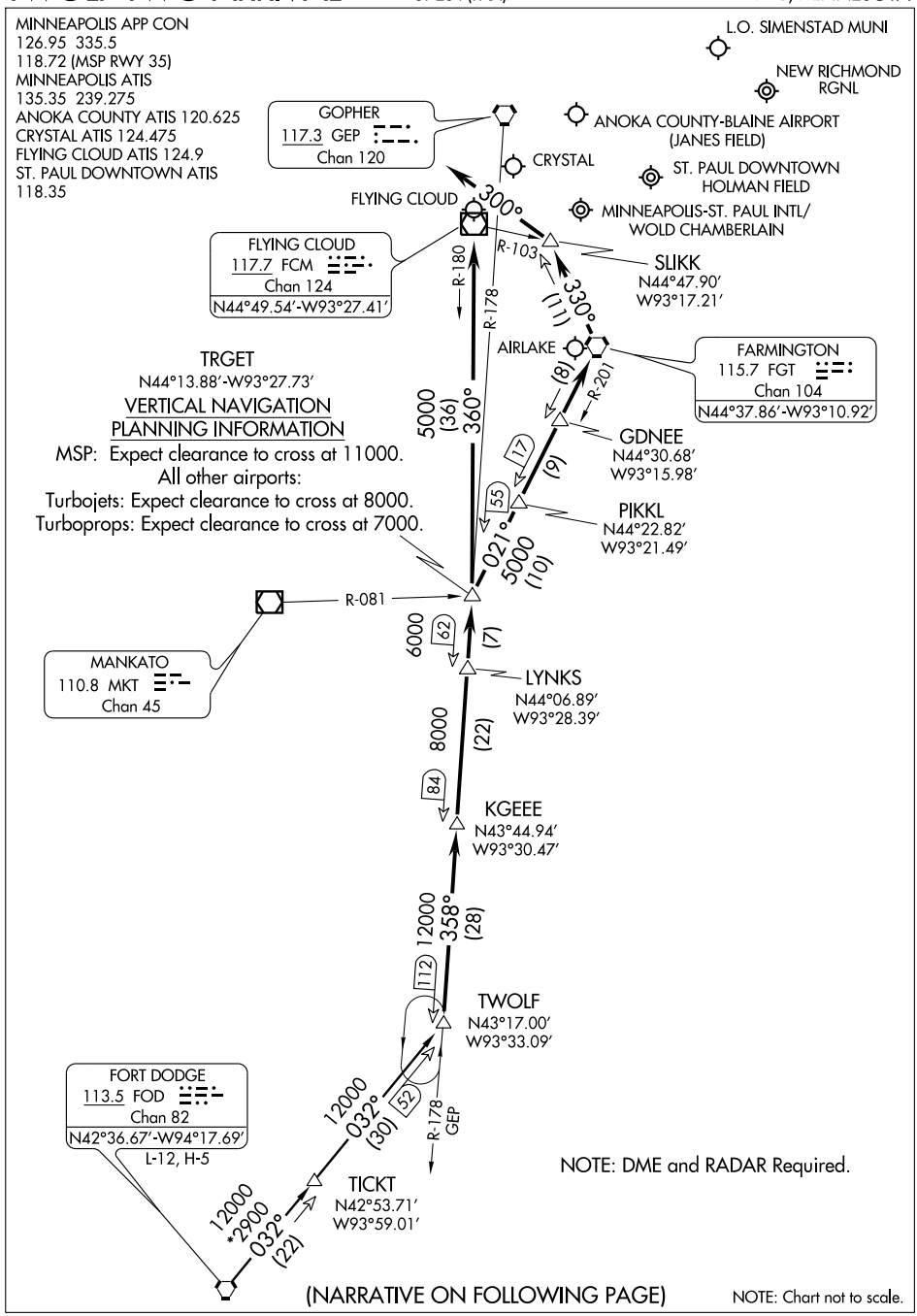
RWY 32: Road and vehicle 211′ from DER, 482′ left of centerline, 17′ AGL/717′ MSL. Railroad beginning 369′ from DER, 329′ left of centerline, up to 23′ AGL/727′ MSL. Pipe on DME 383′ from DER, 269′ right of centerline, 17′ AGL/722′ MSL. Tree 1152′ from DER, 209′ left of centerline, 44′ AGL/744′ MSL. Tree 1685′ from DER, 277′ right of centerline, 75′ AGL/770′ MSL. Sign 5668′ from DER, 1924′ left of centerline, 86′ AGL/874′ MSL. Trees 5614′ from DER, 1796′ right of centerline, 100′ AGL/939′ MSL. Building 5779′ from DER, 1733′ right of centerline, 72′ AGL/910′ MSL. Pole 1 NM from DER, 1835′ right of centerline, 157′ AGL/973′ MSL. Building 1.1 NM from DER, 2170′ left of centerline, 122′ AGL/886′ MSL. Multiple buildings beginning 1.1 NM from DER, 378′ left of centerline, up to 142′ AGL/918′ MSL.

NC-1, 08 APR 2010 to 06 MAY 2010

TWOLF TWO ARRIVAL

ST-264 (FAA)

MINNEAPOLIS, MINNESOTA



TWOLF TWO ARRIVAL

ARRIVAL DESCRIPTION

FORT DODGE TRANSITION (FOD.TWOLF2): From over FOD VORTAC via FOD R-032 to TWOLF/FOD 52 DME, Thence . . . .

....From over TWOLF/GEP 112 DME via GEP R-178 to KGEEE/GEP 84 DME, then as depicted to TRGET INT/GEP 55 DME. Thence....

LANDING MSP RWYS 12L/R: From over TRGET INT via FGT R-201 to FGT VORTAC, then via FGT R-330 to SLIKK INT/FGT 11 DME, then via heading 300° for radar vectors to final approach course.

LANDING MSP RWYS 30L/R, 4, 22, 17, 35: From over TRGET INT via FGT R-201 to FGT VORTAC, then via radar vectors to final approach course.

LANDING ALL OTHER AIRPORTS: From over TRGET INT via FCM R-180 to FCM VOR/DME, then expect radar vectors to final approach course.

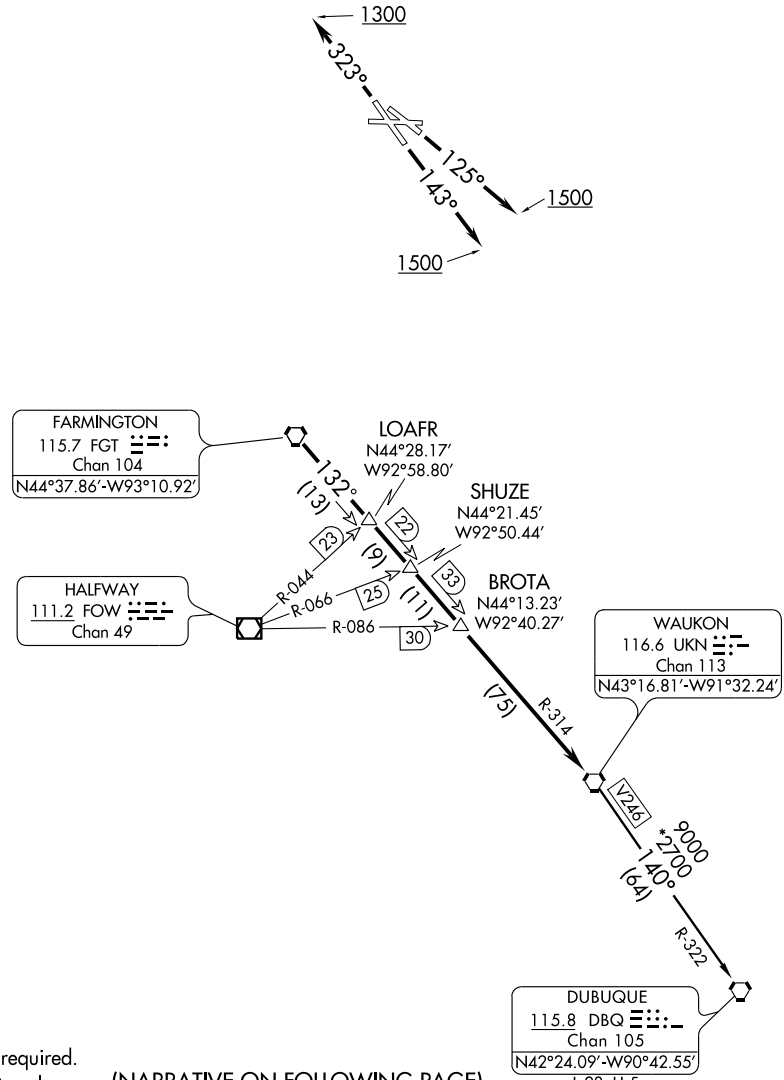
NC-1. 08 APR 2010 to 06 MAY 2010

WAUKON THREE DEPARTURE

TAKE-OFF MINIMUMS

Rwy 9: Standard with minimum climb of 346′ per NM to 1500.
Rwy 13: Standard with minimum climb of 266′ per NM to 1500.
Rwy 14: Standard with minimum climb of 216′ per NM to 1500.
Rwy 27: Standard with minimum climb of 436′ per NM to 1500.
Rwy 31: NA - Obstacles.
Rwy 32: Standard with minimum climb of 340′ per NM to 3000.

ATIS 118.35
CLNC DEL
121.675
MINNEAPOLIS CLNC DEL
121.675 (when tower closed)
MINNEAPOLIS DEP CON
121.2 357.4
ST. PAUL TOWER ★
119.1 (CTAF) 257.8



NOTE: RADAR required.
NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

NC-1, 08 APR 2010 to 06 MAY 2010

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF RUNWAYS 9, 27: Fly assigned heading and altitude for radar vectors to FGT VORTAC then via FGT R-132 and UKN R-314 to UKN VORTAC, thence . . . .

TAKE-OFF RUNWAY 13: Climb heading 125° to 1500 for radar vectors to FGT VORTAC then via FGT R-132 and UKN R-314 to UKN VORTAC, thence . . . .

TAKE-OFF RUNWAY 14: Climb heading 143° to 1500 for radar vectors to FGT VORTAC then via FGT R-132 and UKN R-314 to UKN VORTAC, thence . . . .

TAKE-OFF RUNWAY 32: Climb heading 323° to 1300 for radar vectors to FGT VORTAC then via FGT R-132 and UKN R-314 to UKN VORTAC, thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

DUBUQUE TRANSITION (UKN3.DBQ): From over UKN VORTAC via UKN R-140 and DBQ R-322 to DBQ VORTAC.

TAKE-OFF OBSTACLE NOTES

RWY 9: Multiple trees beginning 1265′ from DER, 167′ right of centerline, up to 75′ AGL/1055′ MSL.
Multiple trees beginning 1.1 NM from DER, 124′ left of centerline, up to 100′ AGL/1099′ MSL.
OL tank 1571′ from DER, 771′ right of centerline, 50′ AGL/811′ MSL.
Mobile crane 1163′ from DER, 123′ left of centerline, 50′ AGL/758′ MSL.

RWY 13: OL stack 2695′ from DER, 842′ right of centerline, 50′ AGL/820′ MSL.
Tree 1563′ from DER, 25′ right of centerline, 61′ AGL/748′ MSL.
Multiple trees beginning 1004′ from DER, 607′ left of centerline, 50′ AGL/767′ MSL.
Tower 1725′ from DER, 930′ left of centerline, 47′ AGL/753′ MSL
Vent on building 3029′ from DER, 629′ right of centerline, 10′ AGL/783′ MSL.
Multiple bushes beginning 194′ from DER, 88′ left of centerline, 7′ AGL/712′ MSL.
Stack 1879′ from DER, 25′ left of centerline, 51′ AGL/751′ MSL.

RWY 14: Multiple trees beginning 805′ from DER, 2′ right of centerline, up to 112′ AGL/811′ MSL.
Multiple trees beginning 1205′ from DER, 64′ left of centerline, up to 80′ AGL/770′ MSL.
Poles 2810′ from DER, 715′ right of centerline, 91′ AGL/778′ MSL.

RWY 27: Multiple trees beginning 803′ from DER, 122′ left of centerline, up to 100′ AGL/994′ MSL.
Tree 783′ from DER, 105′ right of centerline, 25′ AGL/725′ MSL.
OL antenna 996′ from DER, 304′ right of centerline, 67′ AGL/767′ MSL.
Light pole 1328′ from DER, 222′ left of centerline, 50′ AGL/747′ MSL.
Building 2049′ from DER, 837′ right of centerline, 57′ AGL/761′ MSL.
Flagpole 2333′ from DER, 199′ left of centerline, 78′ AGL/778′ MSL.
Stack 1.8 NM from DER, 635′ left of centerline, 569′ AGL/1279′ MSL.

RWY 32: Road and vehicle 211′ from DER, 482′ left of centerline, 17′ AGL/717′ MSL.
Railroad beginning 369′ from DER, 329′ left of centerline, up to 23′ AGL/727′ MSL.
Pipe on DME 383′ from DER, 269′ right of centerline, 17′ AGL/722′ MSL.
Tree 1152′ from DER, 209′ left of centerline, 44′ AGL/744′ MSL.
Tree 1685′ from DER, 277′ right of centerline, 75′ AGL/770′ MSL.
Sign 5668′ from DER, 1924′ left of centerline, 86′ AGL/874′ MSL.
Trees 5614′ from DER, 1796′ right of centerline, 100′ AGL/939′ MSL.
Building 5779′ from DER, 1733′ right of centerline, 72′ AGL/910′ MSL.
Pole 1 NM from DER, 1835′ right of centerline, 157′ AGL/973′ MSL.
Building 1.1 NM from DER, 2170′ left of centerline, 122′ AGL/886′ MSL.
Multiple buildings beginning 1.1 NM from DER, 378′ left of centerline, up to 142′ AGL/918′ MSL.

NC-1, 08 APR 2010 to 06 MAY 2010

WLSTN THREE DEPARTURE

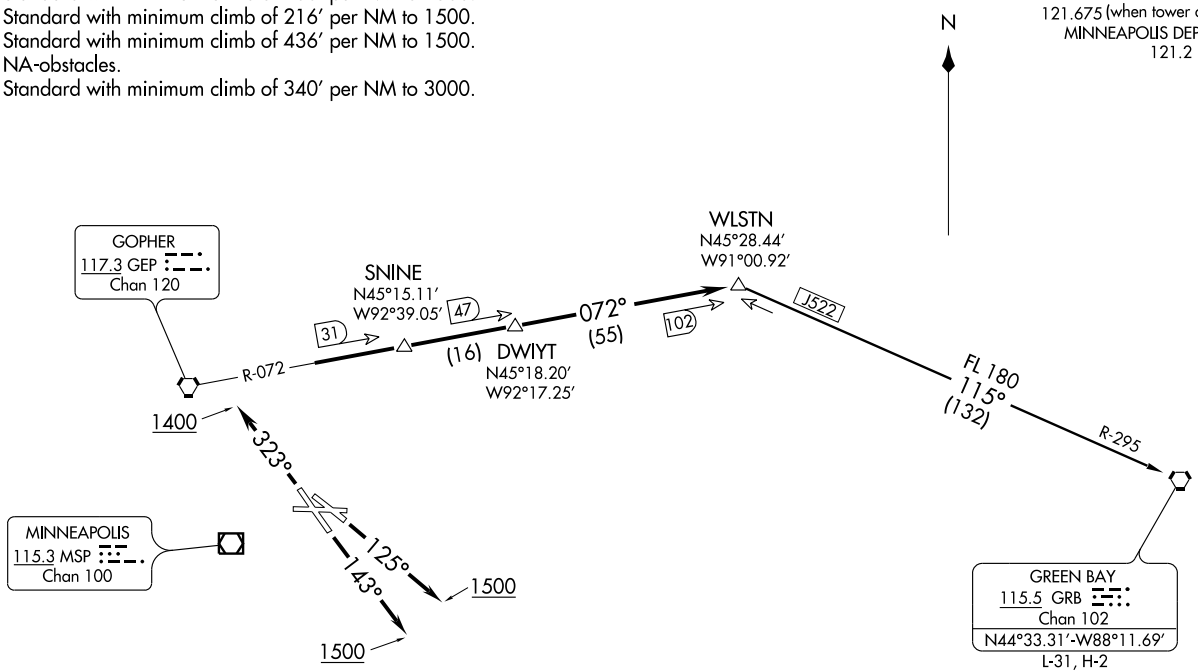
ST. PAUL DOWNTOWN HOLMAN FIELD (STP)
ST. PAUL, MINNESOTA

SL-263 (FAA)

ATIS 118.35
CLNC DEL
121.675
MINNEAPOLIS CLNC DEL
121.675 (when tower closed)
MINNEAPOLIS DEP CON
121.2 357.4

TAKE-OFF MINIMUMS

Rwy 9: Standard with minimum climb of 346′ per NM to 1500.
Rwy 13: Standard with minimum climb of 266′ per NM to 1500.
Rwy 14: Standard with minimum climb of 216′ per NM to 1500.
Rwy 27: Standard with minimum climb of 436′ per NM to 1500.
Rwy 31: NA-obstacles.
Rwy 32: Standard with minimum climb of 340′ per NM to 3000.



NOTE: RADAR and DME required.

NOTE: Chart not to scale.

(NARRATIVE ON FOLLOWING PAGE)

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF RUNWAYS 9, 27: Fly assigned heading and altitude for radar vectors to GEP R-072 to WLSTN/GEP 102 DME, thence . . . .

TAKE-OFF RUNWAY 13: Climb heading 125° to 1500 for radar vectors to GEP R-072 to WLSTN/GEP 102 DME, thence . . . .

TAKE-OFF RUNWAY 14: Climb heading 143° to 1500 for radar vectors to GEP R-072 to WLSTN/GEP 102 DME, thence . . . .

TAKE-OFF RUNWAY 32: Climb heading 323° to 1400 for radar vectors to GEP R-072 to WLSTN/GEP 102 DME, thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

GREEN BAY TRANSITION (WLSTN3.GRB): From over WLSTN via GRB R-295 to GRB VORTAC.

TAKE-OFF OBSTACLE NOTES

RWY 9: Multiple trees beginning 1265′ from DER, 167′ right of centerline, up to 75′ AGL/1055′ MSL.
Multiple trees beginning 1.1 NM from DER, 124′ left of centerline, up to 100′ AGL/1099′ MSL.
OL tank 1571′ from DER, 771′ right of centerline, 50′ AGL/811′ MSL.
Mobile crane 1163′ from DER, 123′ left of centerline, 50′ AGL/758′ MSL.

RWY 13: OL stack 2695′ from DER, 842′ right of centerline, 50′ AGL/820′ MSL.
Tree 1563′ from DER, 25′ right of centerline, 61′ AGL/748′ MSL.
Multiple trees beginning 1004′ from DER, 607′ left of centerline, 50′ AGL/767′ MSL.
Tower 1725′ from DER, 930′ left of centerline, 47′ AGL/753′ MSL.
Vent on building 3029′ from DER, 629′ right of centerline, 10′ AGL/783′ MSL.
Multiple bushes beginning 194′ from DER, 88′ left of centerline, 7′ AGL/712′ MSL.
Stack 1879′ from DER, 25′ left of centerline, 51′ AGL/751′ MSL.

RWY 14: Multiple trees beginning 805′ from DER, 2′ right of centerline, up to 112′ AGL/811′ MSL.
Multiple trees beginning 1205′ from DER, 64′ left of centerline, up to 80′ AGL/770′ MSL.
Poles 2810′ from DER, 715′ right of centerline, 91′ AGL/778′ MSL.

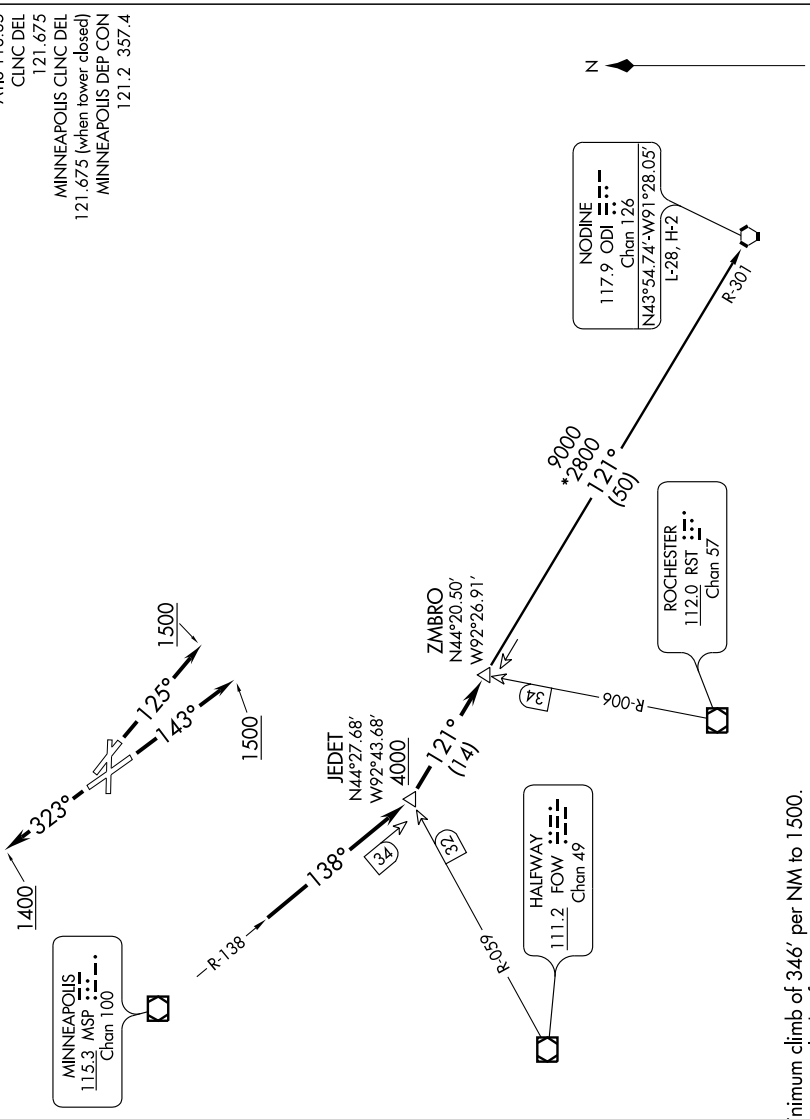
RWY 27: Multiple trees beginning 803′ from DER, 122′ left of centerline, up to 100′ AGL/994′ MSL.
Tree 783′ from DER, 105′ right of centerline, 25′ AGL/725′ MSL.
OL antenna 996′ from DER, 304′ right of centerline, 67′ AGL/767′ MSL.
Light pole 1328′ from DER, 222′ left of centerline, 50′ AGL/747′ MSL.
Building 2049′ from DER, 837′ right of centerline, 57′ AGL/761′ MSL.
Flagpole 2333′ from DER, 199′ left of centerline, 78′ AGL/778′ MSL.
Stack 1.8 NM from DER, 635′ left of centerline, 569′ AGL/1279′ MSL.

RWY 32: Road and vehicle 211′ from DER, 482′ left of centerline, 17′ AGL/717′ MSL.
Railroad beginning 369′ from DER, 329′ left of centerline, up to 23′ AGL/727′ MSL.
Pipe on DME 383′ from DER, 269′ right of centerline, 17′ AGL/722′ MSL.
Tree 1152′ from DER, 209′ left of centerline, 44′ AGL/744′ MSL.
Tree 1685′ from DER, 277′ right of centerline, 75′ AGL/770′ MSL.
Sign 5668′ from DER, 1924′ left of centerline, 86′ AGL/874′ MSL.
Trees 5614′ from DER, 1796′ right of centerline, 100′ AGL/939′ MSL.
Building 5779′ from DER, 1733′ right of centerline, 72′ AGL/910′ MSL.
Pole 1 NM from DER, 1835′ right of centerline, 157′ AGL/973′ MSL.
Building 1.1 NM from DER, 2170′ left of centerline, 122′ AGL/886′ MSL.
Multiple buildings beginning 1.1 NM from DER, 378′ left of centerline, up to 142′ AGL/918′ MSL.

ZMBRO THREE DEPARTURE

ST.PAUL DOWNTOWN HOLMAN FIELD (STP)
SL-263 (FAA)
ST. PAUL, MINNESOTA

ATIS 118.35
CLNC DEL
121.675
MINNEAPOLIS CLNC DEL
121.675 (when tower closed)
MINNEAPOLIS DEP CON
121.2 357.4



NOTE: Chart not to scale.

NOTE: RADAR Required

(NARRATIVE ON FOLLOWING PAGE)

TAKE-OFF MINIMUMS:
Rwy 31: NA - Obstacles.
Rwy 9: Standard with minimum climb of 346' per NM to 1500.
Rwy 13: Standard with minimum climb of 266' per NM to 1500.
Rwy 14: Standard with minimum climb of 216' per NM to 1500.
Rwy 27: Standard with minimum climb of 436' per NM to 1500.
Rwy 32: Standard with minimum climb of 340' per NM to 3000.

DEPARTURE ROUTE DESCRIPTON

TAKE-OFF RUNWAYS 9, 27: Fly assigned heading and altitude for radar vectors to MSP VOR/DME then via MSP R-138 to JEDET INT/MSP 34 DME, at or above 4000; then via ODI R-301 to ZMBRO INT/ODI 50 DME, Thence . . . .

TAKE-OFF RUNWAY 13: Climb heading 125° to 1500 for radar vectors to MSP VOR/DME then via MSP R-138 to JEDET INT/MSP 34 DME, at or above 4000; then via ODI R-301 to ZMBRO INT/ODI 50 DME, Thence . . . .

TAKE-OFF RUNWAY 14: Climb heading 143° to 1500 for radar vectors to MSP VOR/DME then via MSP R-138 to JEDET INT/MSP 34 DME, at or above 4000; then via ODI R-301 to ZMBRO INT/ODI 50 DME, Thence . . . .

TAKE-OFF RUNWAY 32: Climb heading 323° to 1400 for radar vectors to MSP VOR/DME then via MSP R-138 to JEDET INT/MSP 34 DME, at or above 4000; then via ODI R-301 to ZMBRO INT/ODI 50 DME, Thence . . . .

. . . . via transition or assigned route. Expect clearance to filed altitude/flight level 10 (ten) minutes after departure.

NODINE TRANSITION (ZMBRO3.ODI): From over ZMBRO INT via ODI R-301 to ODI VORTAC.

TAKE-OFF OBSTACLE NOTES:

RWY 9: Multiple trees beginning 1265′ from DER, 167′ right of centerline, up to 75′ AGL/1055′ MSL. Multiple trees beginning 1.1 NM from DER, 124′ left of centerline, up to 100′ AGL/1099′ MSL. OL tank 1571′ from DER, 771′ right of centerline, 50′ AGL/811′ MSL. Mobile crane 1163′ from DER, 123′ left of centerline, 50′ AGL/758′ MSL.

RWY 13: OL stack 2695′ from DER, 842′ right of centerline, 50′ AGL/820′ MSL. Tree 1563′ from DER, 25′ right of centerline, 61′ AGL/748′ MSL. Multiple trees beginning 1004′ from DER, 607′ left of centerline, 50′ AGL/767′ MSL. Tower 1725′ from DER, 930′ left of centerline, 47′ AGL/753′ MSL. Vent on building 3029′ from DER, 629′ right of centerline, 10′ AGL/783′ MSL. Multiple bushes beginning 194′ from DER, 88′ left of centerline, 7′ AGL/712′ MSL. Stack 1879′ from DER, 25′ left of centerline, 51′ AGL/751′ MSL.

RWY 14: Multiple trees beginning 805′ from DER, 2′ right of centerline, up to 112′ AGL/811′ MSL. Multiple trees beginning 1205′ from DER, 64′ left of centerline, up to 80′ AGL/770′ MSL. Poles 2810′ from DER, 715′ right of centerline, 91′ AGL/778′ MSL.

RWY 27: Multiple trees beginning 803′ from DER, 122′ left of centerline, up to 100′ AGL/994′ MSL. Tree 783′ from DER, 105′ right of centerline, 25′ AGL/725′ MSL. OL antenna 996′ from DER, 304′ right of centerline, 67′ AGL/767′ MSL. Light pole 1328′ from DER, 222′ left of centerline, 50′ AGL/747′ MSL. Building 2049′ from DER, 837′ right of centerline, 57′ AGL/761′ MSL. Flagpole 2333′ from DER, 199′ left of centerline, 78′ AGL/778′ MSL. Stack 1.8 NM from DER, 635′ left of centerline, 569′ AGL/1279′ MSL.

RWY 32: Road and vehicle 211′ from DER, 482′ left of centerline, 17′ AGL/717′ MSL. Railroad beginning 369′ from DER, 329′ left of centerline, up to 23′ AGL/727′ MSL. Pipe on DME 383′ from DER, 269′ right of centerline, 17′ AGL/722′ MSL. Tree 1152′ from DER, 209′ left of centerline, 44′ AGL/744′ MSL. Tree 1685′ from DER, 277′ right of centerline, 75′ AGL/770′ MSL. Sign 5668′ from DER, 1924′ left of centerline, 86′ AGL/874′ MSL. Trees 5614′ from DER, 1796′ right of centerline, 100′ AGL/939′ MSL. Building 5779′ from DER, 1733′ right of centerline, 72′ AGL/910′ MSL. Pole 1 NM from DER, 1835′ right of centerline, 157′ AGL/973′ MSL. Building 1.1 NM from DER, 2170′ left of centerline, 122′ AGL/886′ MSL. Multiple buildings beginning 1.1 NM from DER, 378′ left of centerline, up to 142′ AGL/918′ MSL.

NC-1, 08 APR 2010 to 06 MAY 2010

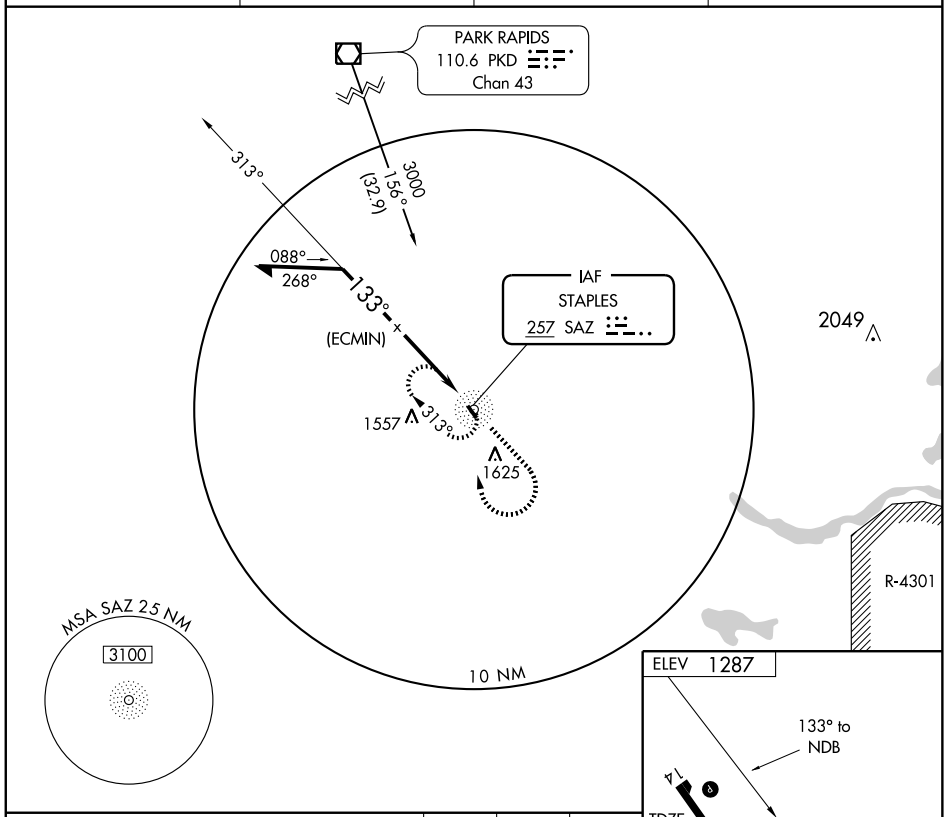
NDB SAZ	APP CRS	Rwy ldg	3304
257	133°	TDZE	1287
		Apt Elev	1287

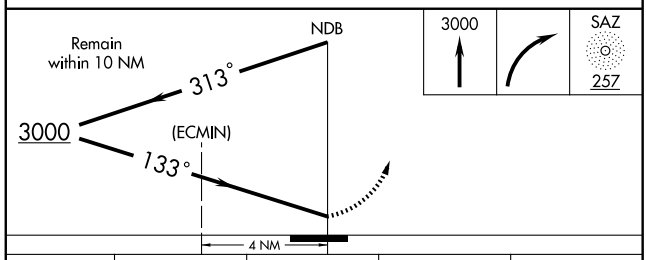
NDB or GPS RWY 14
STAPLES MUNI (SAZ)

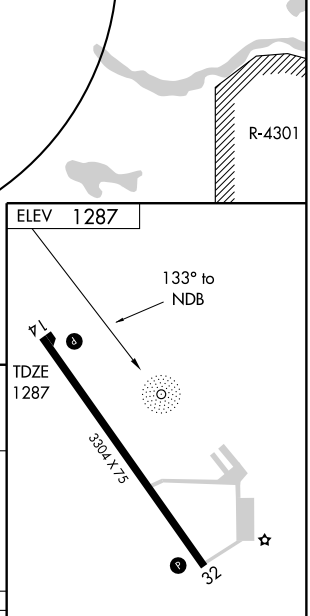
NA

MISSED APPROACH: Climb to 3000 then right turn direct SAZ NDB and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	CTAF
118.325	118.05 239.0	121.725	122.9 L







CATEGORY	A	B	C	D
S-14	1820-1	533 (600-1)	1820-1½ 533 (600-1½)	NA
CIRCLING	1820-1	533 (600-1)	1940-1¾ 653 (700-1¾)	NA

REIL Rwys 14 and 32 L
MIRL Rwy 14-32 L

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-HYZ	APP CRS	Rwy ldg	6503
110.5	310°	TDZE	1115
		Apt Elev	1119

ILS or LOC RWY 31
THIEF RIVER FALLS RGNL (TVF)

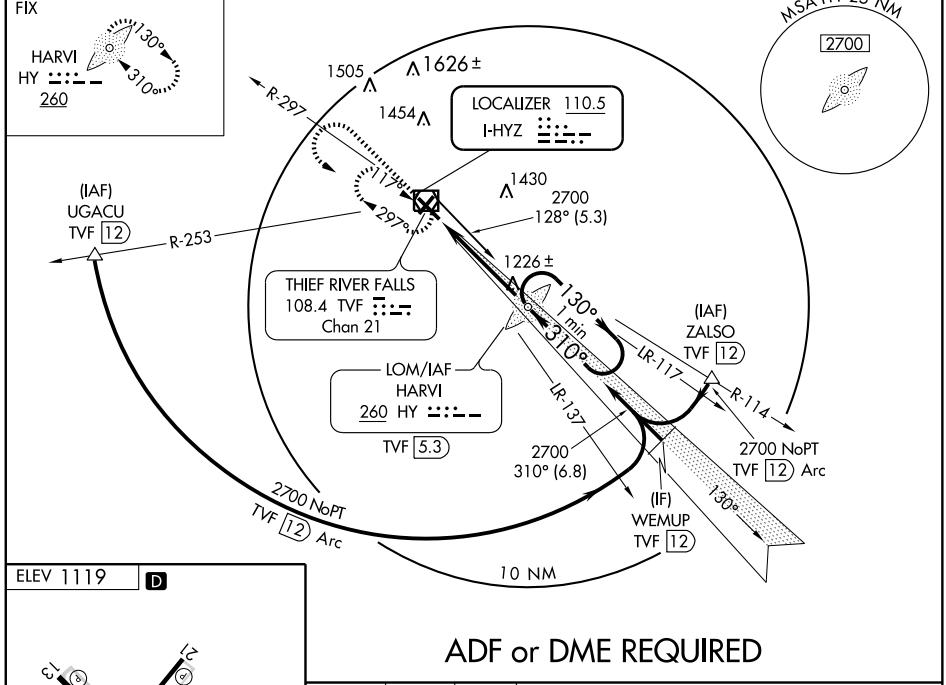
T
A NA

When local altimeter setting not received, use Crookston altimeter setting and increase all DA 82 feet, and all MDA 100 feet and increase S-LOC Cat C/D visibility ¼ mile. For inoperative MALSR when using Crookston altimeter setting, increase visibility S-ILS 31 all Cats to 1 mile. Circling to Rwy 3/21 NA.

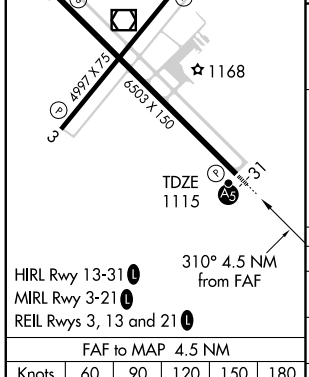
MALSR
A5

MISSED APPROACH: Climb to 2700 then left turn direct TVF VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
108.4	132.15 269.6	122.8 (CTAF) L

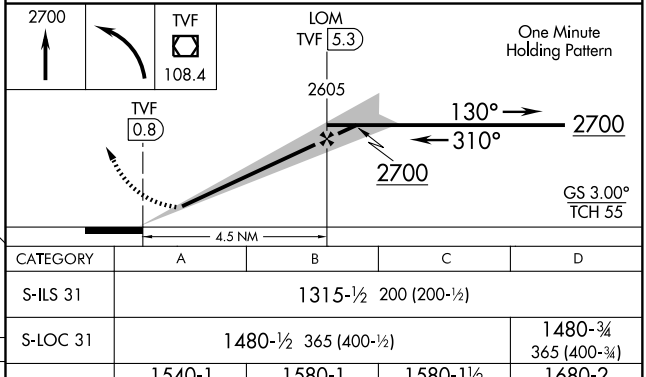


ADF or DME REQUIRED



HIRL Rwy 13-31 L
MIRL Rwy 3-21 L
REIL Rwys 3, 13 and 21 L

FAF to MAP 4.5 NM					
Knots	60	90	120	150	180
Min:Sec	4:30	3:00	2:15	1:48	1:30



CATEGORY	A	B	C	D
S-ILS 31	1315-½ 200 (200-½)			
S-LOC 31	1480-½ 365 (400-½)			1480-¾ 365 (400-¾)
CIRCLING	1540-1 421 (500-1)	1580-1 461 (500-1)	1580-1½ 461 (500-1½)	1680-2 561 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

LOM HY	APP CRS	Rwy ldg	6503
260	309°	TDZE	1115
		Apt Elev	1119

NDB RWY 31

THIEF RIVER FALLS RGNL (TVF)

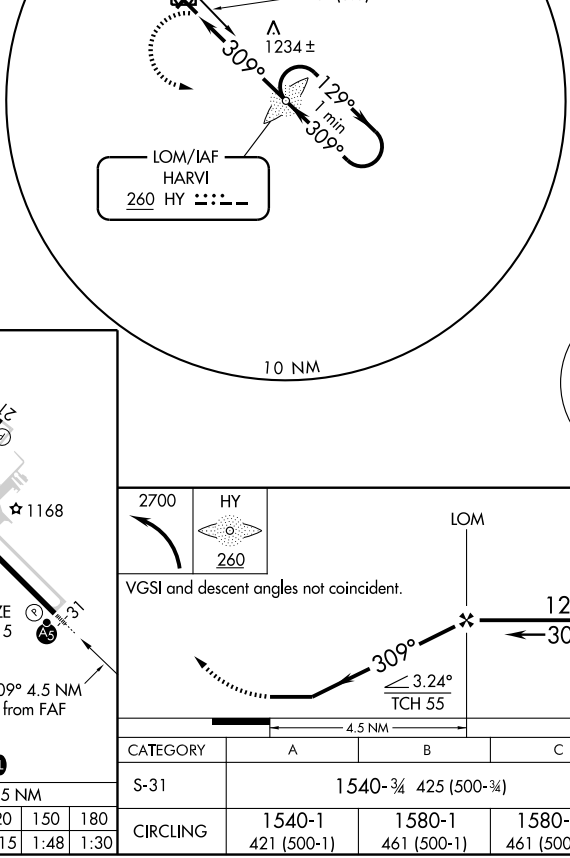
Circling to Rwy 3/21 NA.
When local altimeter setting not received, use Crookston altimeter setting and increase all MDA 100 feet and increase S-31 Cat C visibility ¼ mile and Cat D visibility ½ mile.

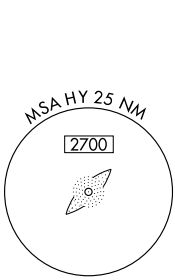
NA

MALSR

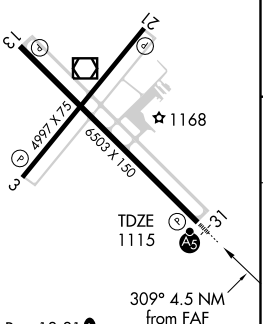
MISSED APPROACH: Climbing left turn to 2700 direct HY LOM and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
108.4	132.15 269.6	122.8 (CTAF) L



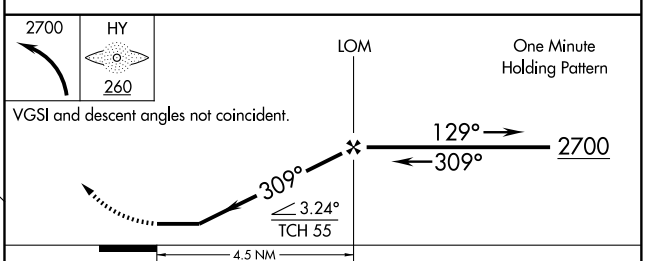


ELEV 1119 D



HIRL Rwy 13-31 L
MIRL Rwy 3-21 L
REIL Rwys 3, 13 and 21 L

FAF to MAP 4.5 NM					
Knots	60	90	120	150	180
Min:Sec	4:30	3:00	2:15	1:48	1:30



CATEGORY	A	B	C	D
S-31	1540-¾ 425 (500-¾)			1540-1 425 (500-1)
CIRCLING	1540-1 421 (500-1)	1580-1 461 (500-1)	1580-1½ 461 (500-1½)	1680-2 561 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

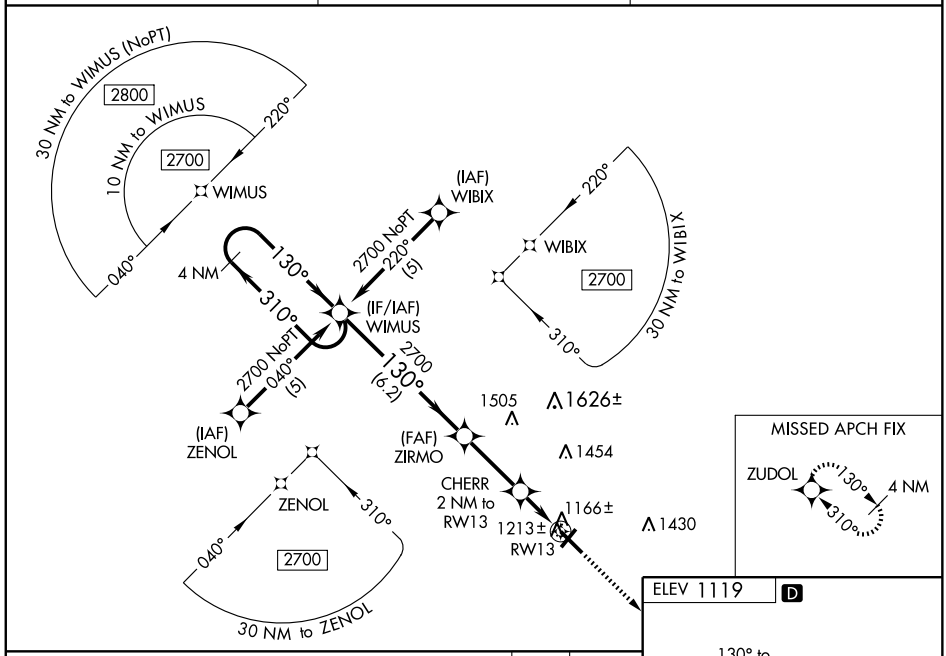
WAAS CH 72711 W13A	APP CRS 130°	Rwy ldg 6503 TDZE 1115 Apt Elev 1119

RNAV (GPS) RWY 13
THIEF RIVER FALLS RGNL (TVF)

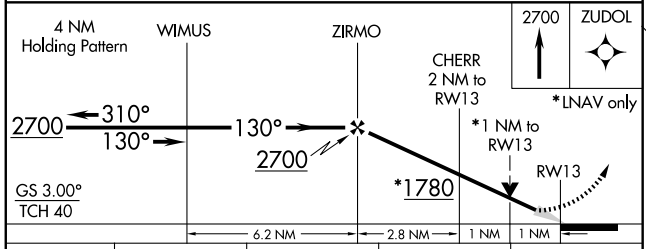
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP-0.3 NA.
When local altimeter setting not received, use Crookston altimeter setting and increase all DA 82 feet, and all MDA 100 feet and LPV and LNAV/VNAV all Cats and LNAV Cats C and D visibilities ¼ mile.
VDP and Baro-VNAV NA when using Crookston altimeter setting.
Circling to Rwy 3/21 NA.

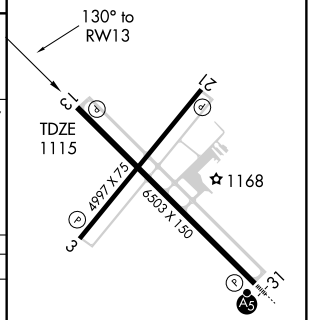
MISSED APPROACH: Climb to 2700 direct ZUDOL and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
108.4	132.15 269.6	122.8 (CTAF) L



ELEV 1119 D





CATEGORY	A	B	C	D
LPV DA	1365-1 250 (300-1)			
LNAV/VNAV DA	1436-1¼ 321 (400-1¼)			
LNAV MDA	1480-1 365 (400-1)			1480-1¼ 365 (400-1¼)
CIRCLING	1540-1 421 (500-1)	1580-1 461 (500-1)	1580-1½ 461 (500-1½)	1680-2 561 (600-2)

HIRL Rwy 13-31 L
MIRL Rwy 3-21 L
REIL Rwys 3, 13 and 21 L

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 69311 W31A	APP CRS 310°	Rwy ldg 6503 TDZE 1115 Apt Elev 1119

RNAV (GPS) RWY 31
THIEF RIVER FALLS RGNL (TVF)

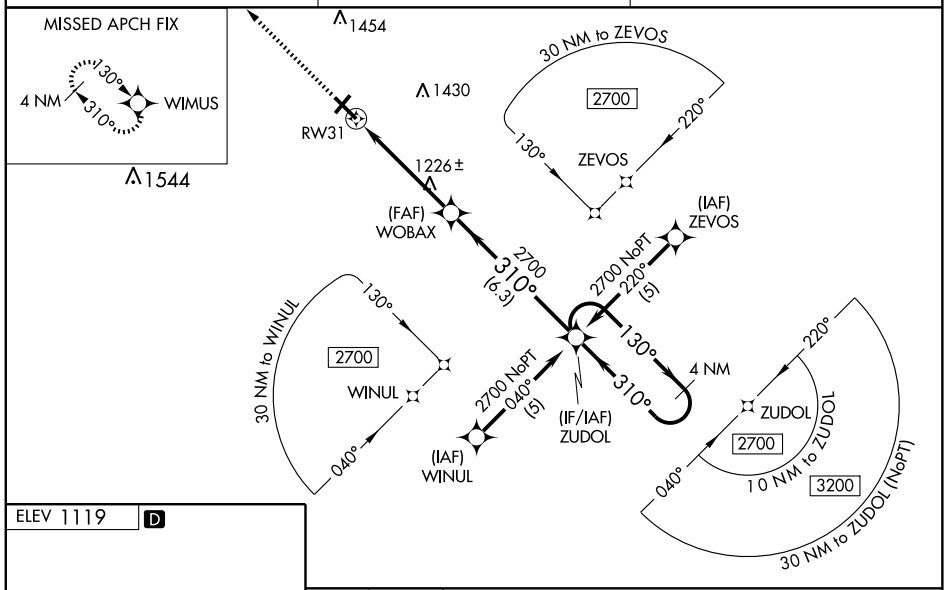
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (114°F). DME/DME RNP-0.3 NA.

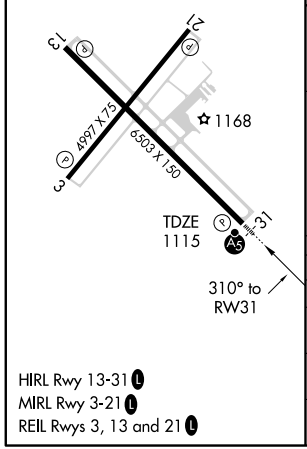
When local altimeter setting not received, use Crookston altimeter setting and increase all DA 82 feet, and all MDA 100 feet and LPV all Cats, LNAV/VNAV Cats A, B, and C and LNAV Cat C visibilities ¼ mile.
For inoperative MALSR when using Crookston altimeter setting, increase visibility LPV all Cats to 1¼ mile.
For inoperative MALSR increase visibility LNAV/VNAV Cat D to 1 mile and increase visibility LNAV Cat D to 1¼ mile.
VDP and Baro-VNAV NA when using Crookston altimeter setting.
Circling to Rwy 3/21 NA.

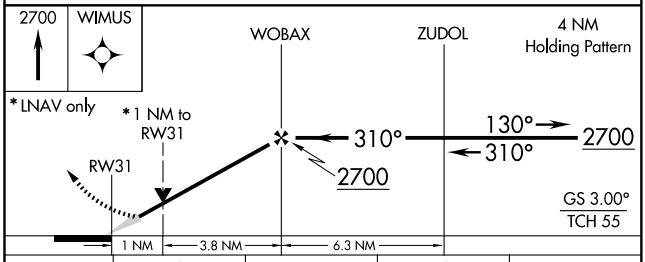
MALSR

MISSED APPROACH: Climb to 2700 direct WIMUS and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
108.4	132.15 269.6	122.8 (CTAF) L







CATEGORY	A	B	C	D
LPV DA	1365-½ 250 (300-½)			
LNAV/VNAV DA	1427-½ 312 (400-½)			1427-¾ 312 (400-¾)
LNAV MDA	1500-½ 385 (400-½)			1500-1 385 (400-1)
CIRCLING	1540-1 421 (500-1)	1580-1 461 (500-1)	1580-1½ 461 (500-1½)	1680-2 561 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME TVF 108.4 Chan 21	APP CRS 117°	Rwy ldg 6503 TDZE 1114 Apt Elev 1116

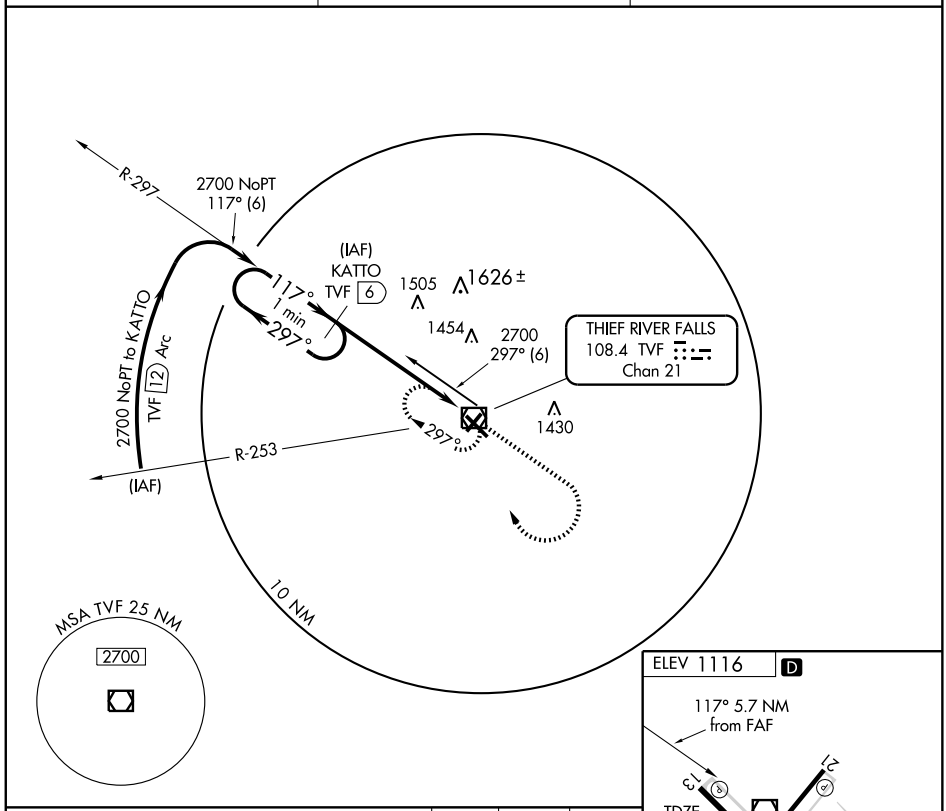
VOR/DME RWY 13

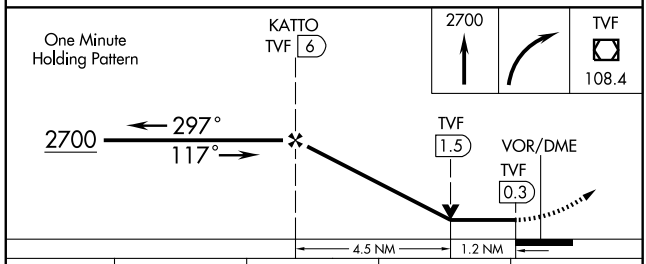
THIEF RIVER FALLS RGNL (TVF)

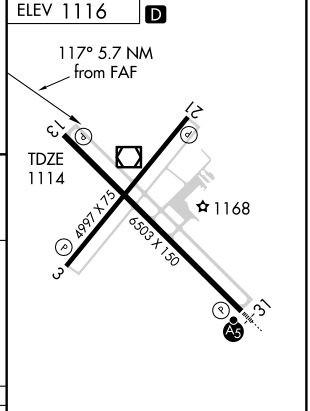
Circling to Rwy 3/21 NA.

MISSED APPROACH: Climb to 2700 then right turn direct TVF VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
108.4	132.15 269.6	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-13	1520-1 406 (500-1)		1520-1¼ 406 (500-1¼)	
CIRCLING	1540-1 424 (500-1)	1580-1 464 (500-1)	1580-1½ 464 (500-1½)	1680-2 564 (600-2)

HIRL Rwy 13-31 L
MIRL Rwy 3-21 L
REIL Rwys 3, 13 and 21 L

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME TVF 108.4 Chan 21	APP CRS 312°	Rwy ldg 6503 TDZE 1113 Apt Elev 1116

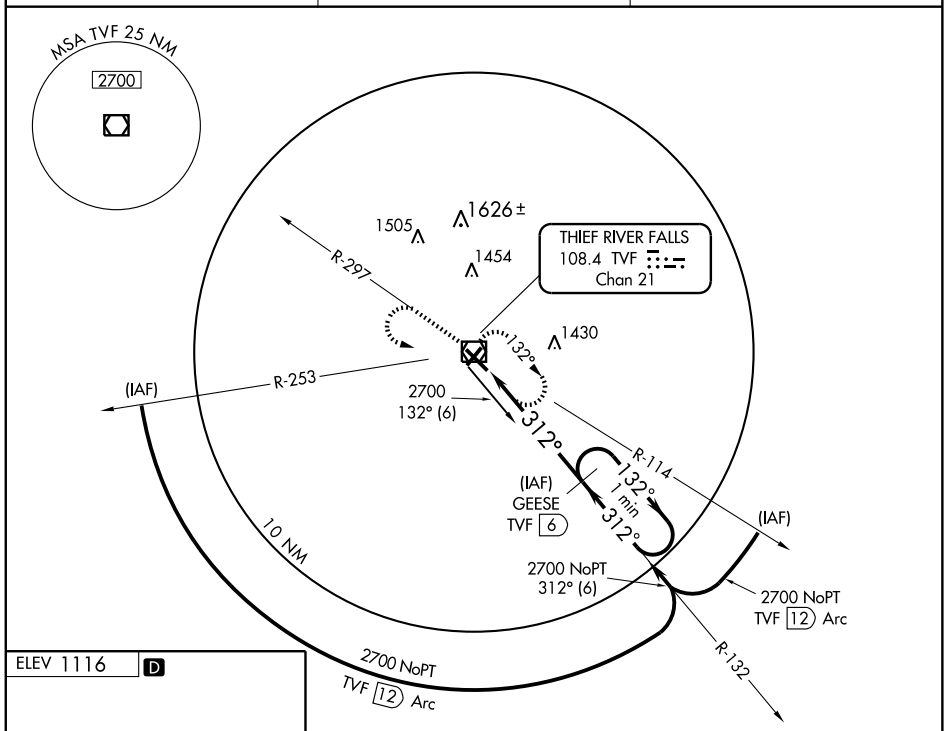
VOR/DME RWY 31
THIEF RIVER FALLS RGNL (TVF)

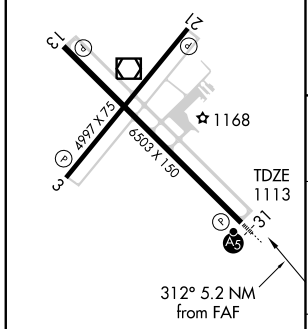
T Increase S-31 Cat D visibility ¼ mile for inoperative MALSR. Circling to Rwy 3/21 NA.

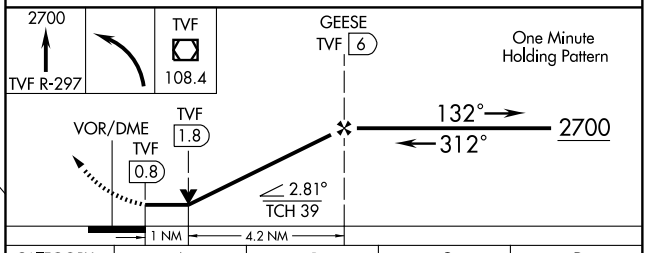
MALSR

MISSED APPROACH: Climb to 2700 via TVF R-297 then left turn direct TVF VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
108.4	132.15 269.6	122.8 (CTAF) L







HIRL Rwy 13-31 L
MIRL Rwy 3-21 L
REIL Rwys 3, 13 and 21 L

CATEGORY	A	B	C	D
S-31	1480-½ 367 (400-½)			1480-1 367 (400-1)
CIRCLING	1540-1 424 (500-1)	1580-1 464 (500-1)	1580-1½ 464 (500-1½)	1680-2 564 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME TVF 108.4 Chan 21	APP CRS 117°	Rwy ldg 6503 TDZE 1115 Apt Elev 1119

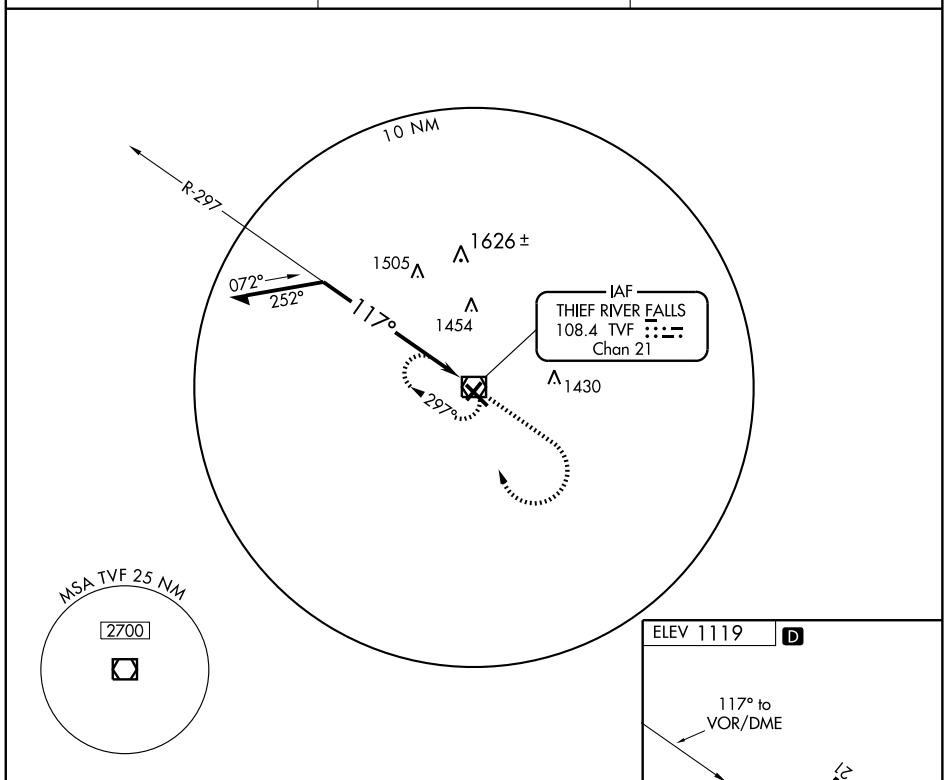
VOR RWY 13

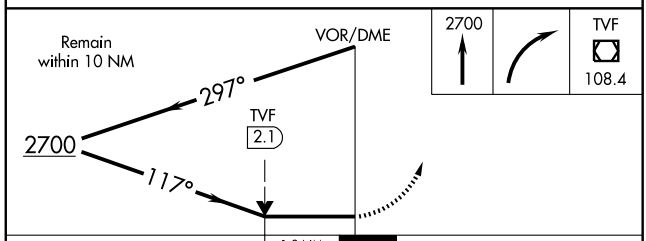
THIEF RIVER FALLS RGNL (TVF)

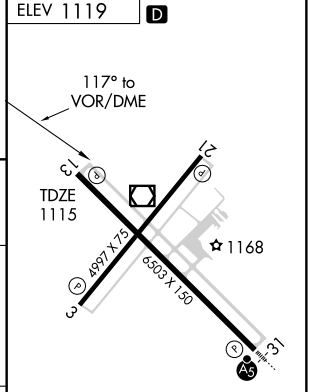
Circling to Rwy 3/21 NA.
VDP NA when using Crookston altimeter setting.
When local altimeter setting not received, use Crookston altimeter setting and increase all MDA 100 feet and increase Cat C and D visibilities ¼ mile.

MISSED APPROACH: Climb to 2700 then right turn direct TVF VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
108.4	132.15 269.6	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-13	1740-1 625 (700-1)		1740-1¾ 625 (700-1¾)	1740-2 625 (700-2)
CIRCLING	1740-1 621 (700-1)		1740-1¾ 621 (700-1¾)	1740-2 621 (700-2)

HIRL Rwy 13-31 L
MIRL Rwy 3-21 L
REIL Rwys 3, 13 and 21 L

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME TVF 108.4 Chan 21	APP CRS 312°	Rwy ldg 6503 TDZE 1113 Apt Elev 1116

VOR RWY 31

THIEF RIVER FALLS RGNL (TVF)

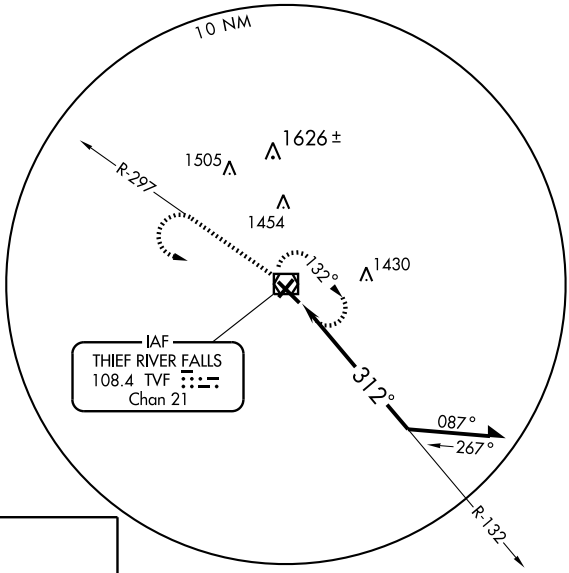
T

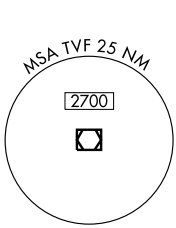
Circling to Rwy 3/21 NA.

MALSR A5

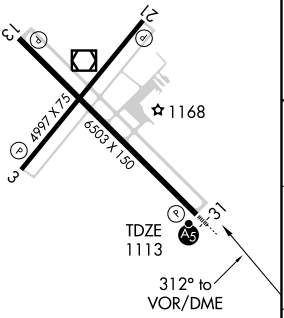
MISSED APPROACH: Climb to 2700 via TVF R-297 then left turn direct TVF VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
108.4	132.15 269.6	122.8 (CTAF) L

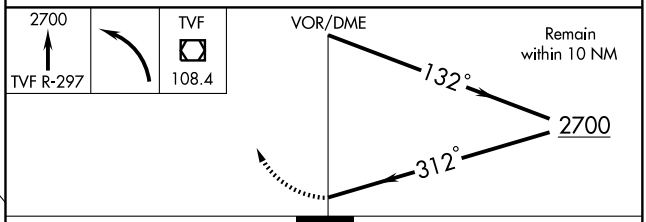




ELEV 1116 D



HIRL Rwy 13-31 L
MIRL Rwy 3-21 L
REIL Rwys 3, 13 and 21 L



CATEGORY	A	B	C	D
S-31	1540-½ 427 (500-½)		1540-¾ 427 (500-¾)	1540-1 427 (500-1)
CIRCLING	1540-1 424 (500-1)	1580-1 464 (500-1)	1580-1½ 464 (500-1½)	1680-2 564 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

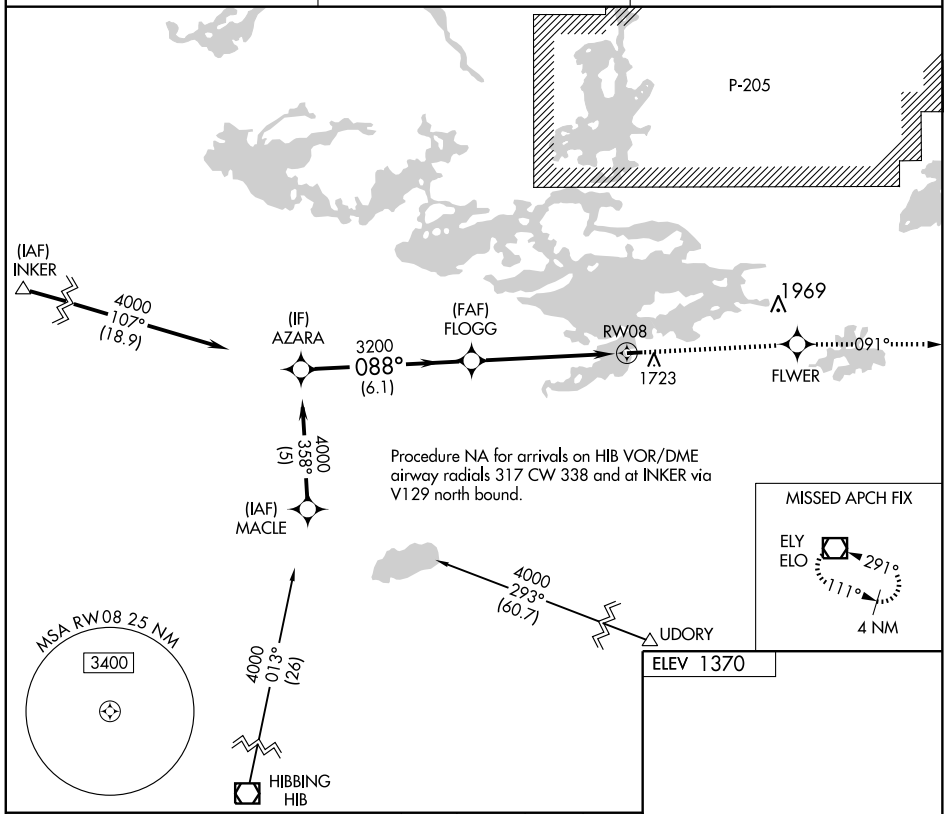
APP CRS	Rwy ldg	3400
088°	TDZE	1369
	Apt Elev	1370

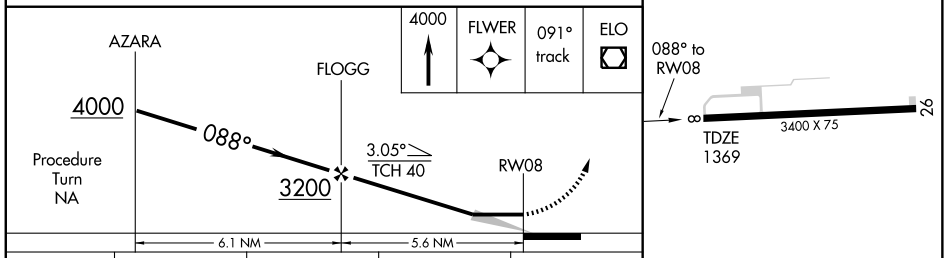
RNAV (GPS) RWY 8
TOWER MUNI (12D)

DME/DME RNP- 0.3 NA. Procedure NA at night.
Use Cook altimeter setting, when not received, use Ely altimeter setting and increase all MDA 20 feet and increase LNAV Cat C visibility ¼ mile.

MISSED APPROACH: Climb to 4000 direct FLWER and via 091° track to ELO VOR/DME and hold.

COOK AWOS-3	MINNEAPOLIS CENTER	CTAF
118.175	127.9 281.45	122.9 L





CATEGORY	A	B	C	D
LNAV MDA	1960-1 591 (600-1)		1960-1½ 591 (600-1½)	NA
CIRCLING	2120-1 750 (800-1)	2120-1¼ 750 (800-1¼)	2120-2¼ 750 (800-2¼)	NA

MIRL Rwy 8-26 L

NC-1. 08 APR 2010 to 06 MAY 2010

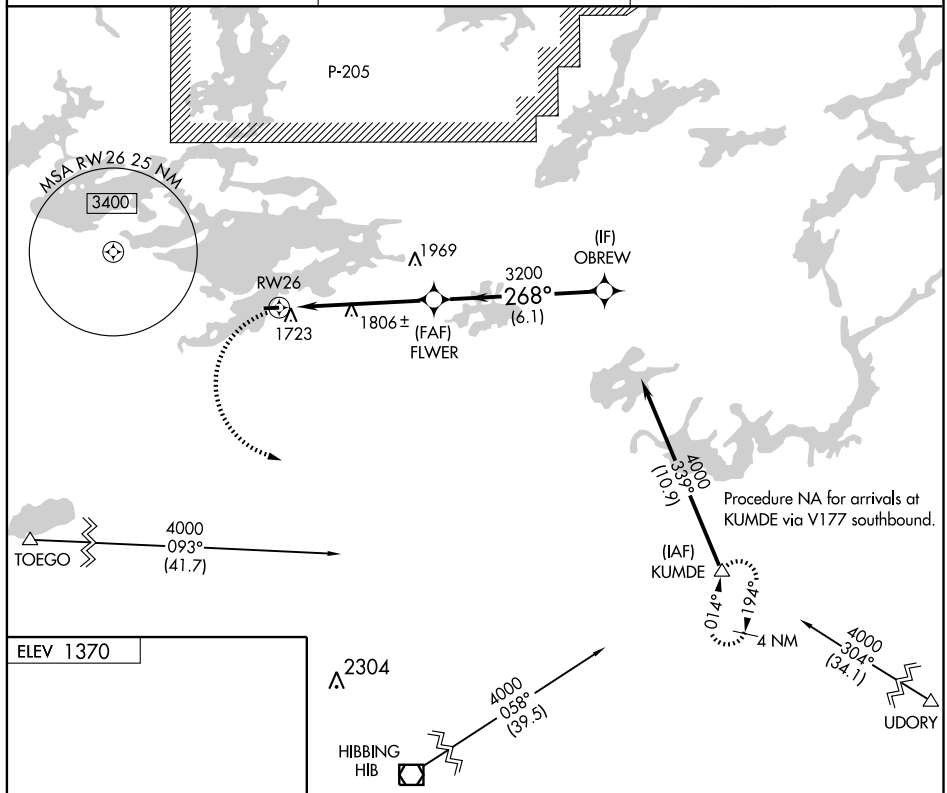
APP CRS	Rwy ldg	3400
268°	TDZE	1370
	Apt Elev	1370

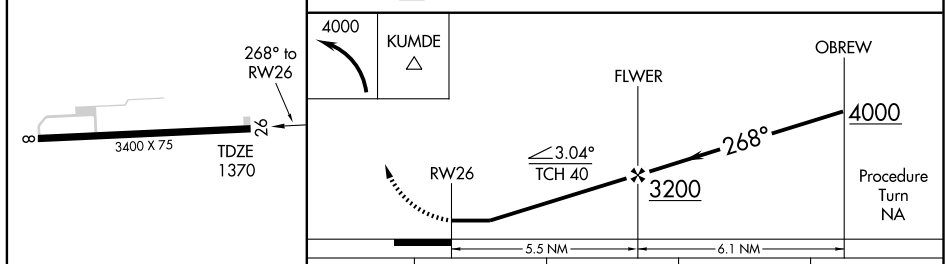
RNAV (GPS) RWY 26
TOWER MUNI (12D)

DME/DME RNP- 0.3 NA. Procedure NA at night.
NA Visibility reduction by helicopters NA.
Use Cook altimeter setting, when not received, use Ely altimeter setting and increase all MDA 20 feet and increase Cat B and C visibility ¼ mile.

MISSED APPROACH: Climbing left turn to 4000 direct KUMDE and hold.

COOK AWOS-3	MINNEAPOLIS CENTER	CTAF
118.175	127.9 281.45	122.9 L





CATEGORY	A	B	C	D
LNAV MDA	2100-1 730 (800-1)		2100-2 730 (800-2)	NA
CIRCLING	2120-1 750 (800-1)	2120-1¼ 750 (800-1¼)	2120-2¼ 750 (800-2¼)	NA

MIRL Rwy 8-26 L

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	3100
114°	TDZE	1336
	Apt Elev	1340

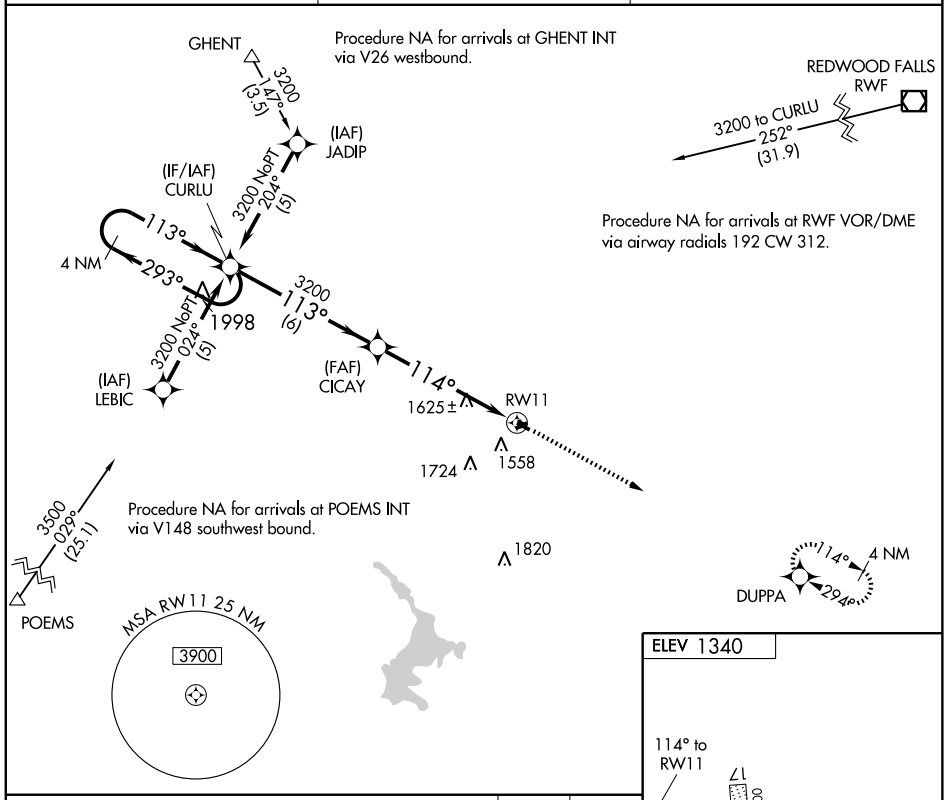
RNAV (GPS) RWY 11
TRACY MUNI (TKC)

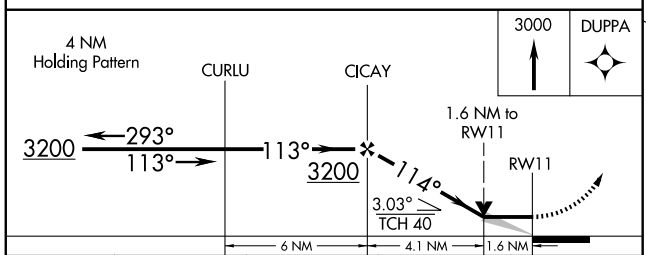
NA

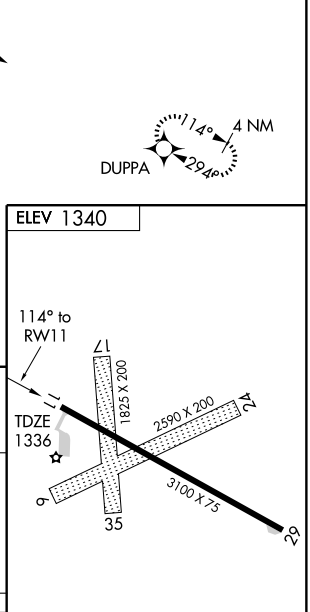
DME/DME RNP- 0.3 NA.
If local altimeter setting not received, use Marshall/Ryan altimeter setting and increase all MDAs 60 feet.
Procedure NA at night.

MISSED APPROACH: Climb to 3000 direct DUPPA and hold.

AWOS-3	MINNEAPOLIS CENTER	CTAF
120.0	127.1 290.2	122.9 L







CATEGORY	A	B	C	D
LNAV MDA	1900-1 564 (600-1)		NA	
CIRCLING	1960-1 620 (700-1)		NA	

MIRL Rwy 11-29 L

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	3100
294°	TDZE	1336
	Apt Elev	1340

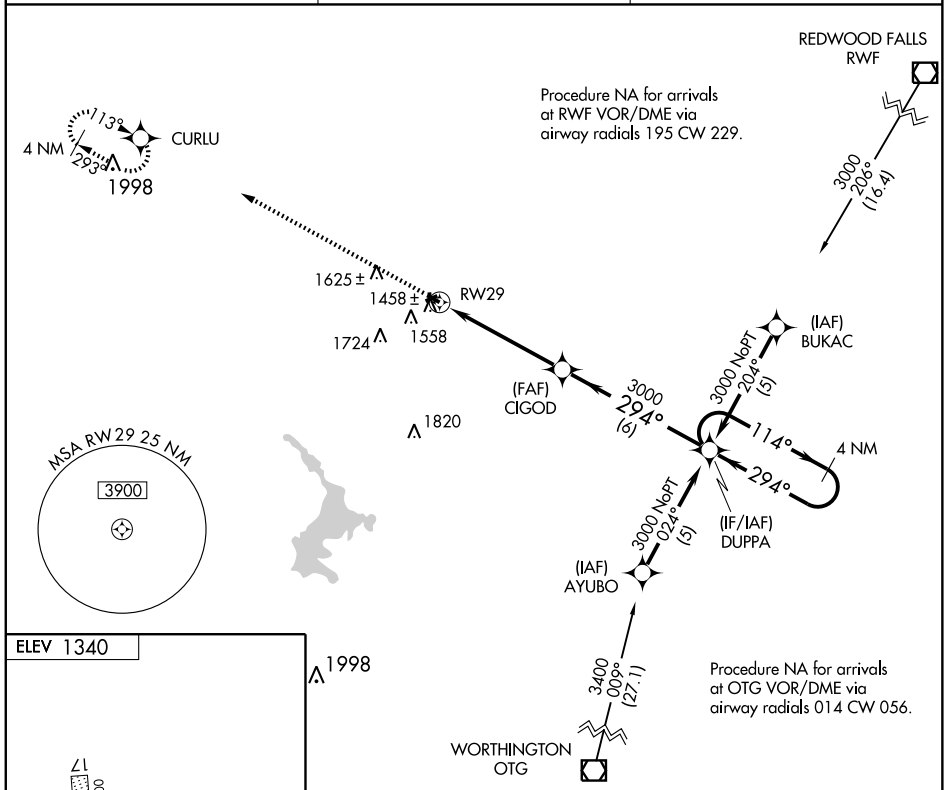
RNAV (GPS) RWY 29
TRACY MUNI (TKC)

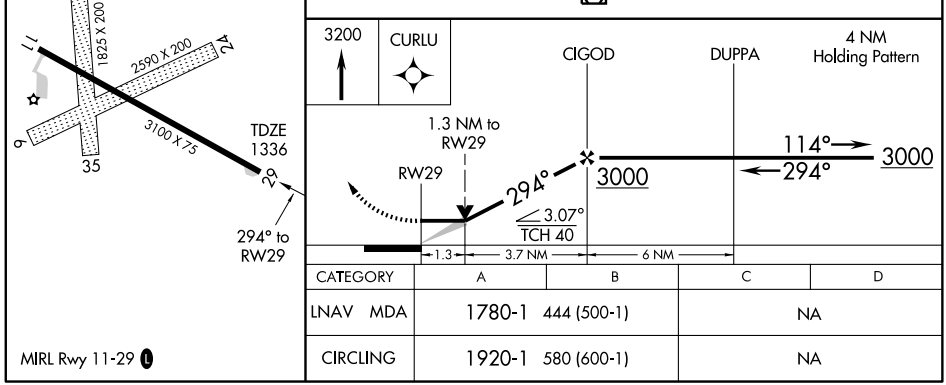
NA

DME/DME RNP- 0.3 NA.
If local altimeter setting not received, use Marshall/Ryan altimeter setting and increase all MDAs 60 feet.
Procedure NA at night.

MISSED APPROACH: Climb to 3200 direct CURLU and hold.

AWOS-3	MINNEAPOLIS CENTER	CTAF
120.0	127.1 290.2	122.9 L





CATEGORY	A	B	C	D
LNAV MDA	1780-1 444 (500-1)		NA	
CIRCLING	1920-1 580 (600-1)		NA	

MIRL Rwy 11-29 L

APP CRS	Rwy ldg	4400
241°	TDZE	1073
	Apt Elev	1080

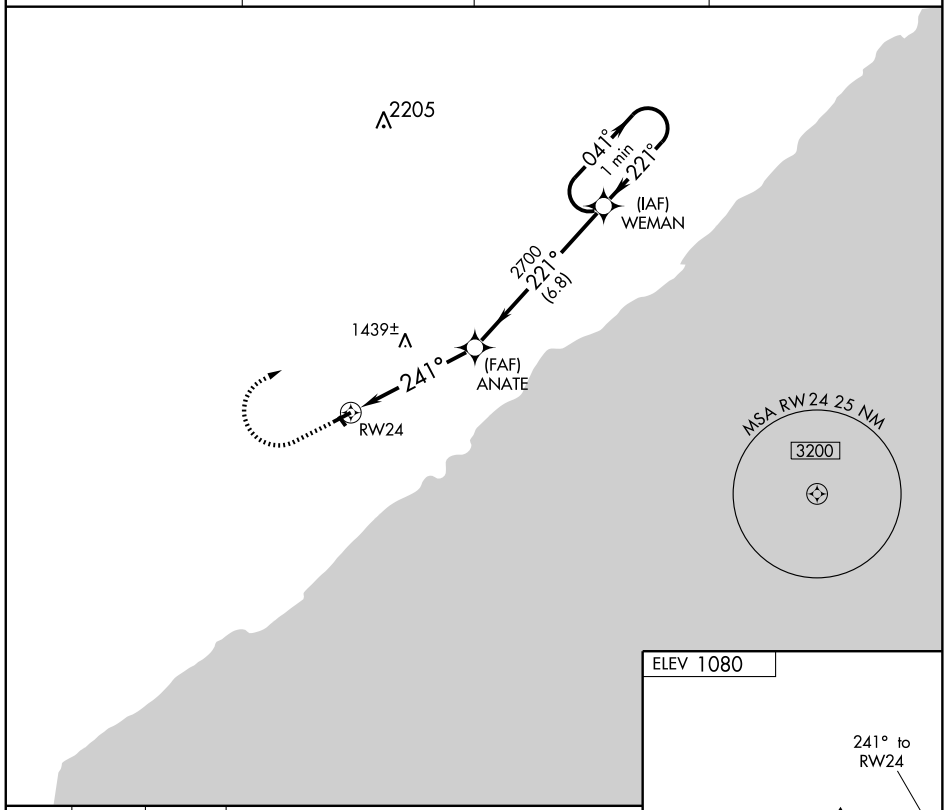
GPS RWY 24

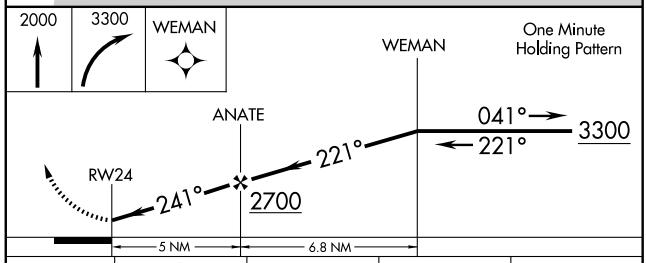
TWO HARBORS/RICHARD B HELGESON (TWM)

NA

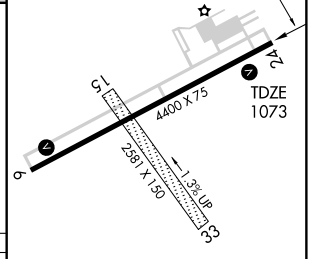
MISSED APPROACH: Climb to 2000 then climbing right turn to 3300 direct WEMAN WP and hold.

AWOS-3	DULUTH APP CON★	GCO	CTAF
119.325	125.45 255.9	121.725	122.9 L





CATEGORY	A	B	C	D
S-24	1580-1	507 (500-1)	NA	
CIRCLING	1660-1 580 (600-1)	1740-1 660 (700-1)	NA	



MIRL Rwy 6-24 L
REIL Rwys 6 and 24 L

NC-1. 08 APR 2010 to 06 MAY 2010

NDB TWM	APP CRS	Rwy ldg	4400
243	257°	TDZE	1073
		Apt Elev	1080

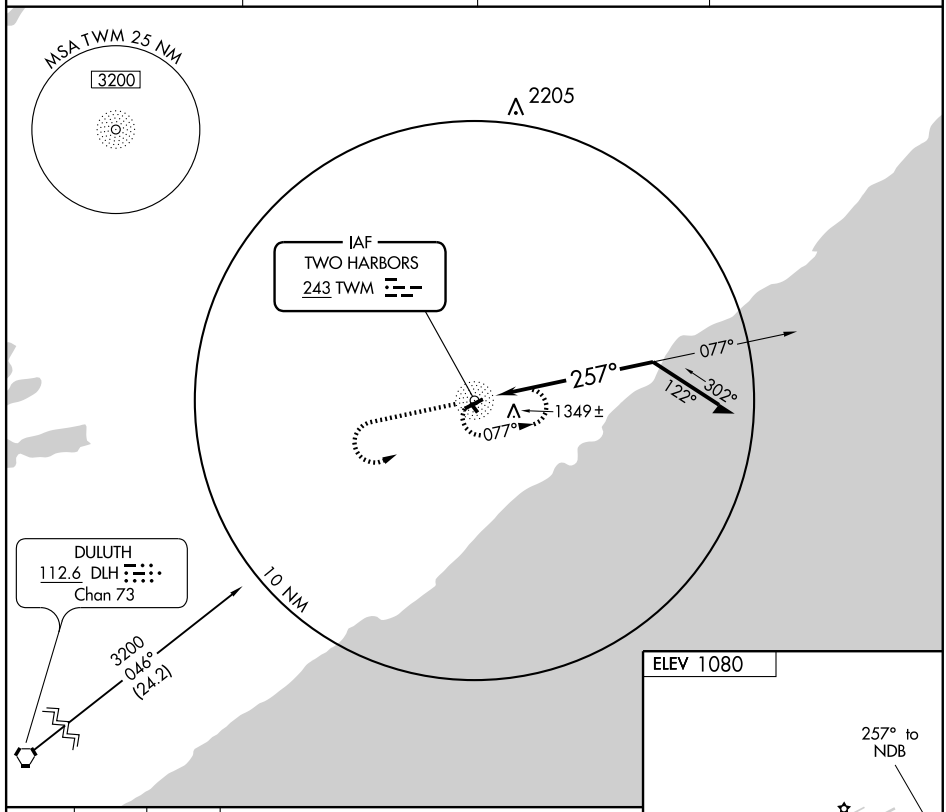
NDB RWY 24

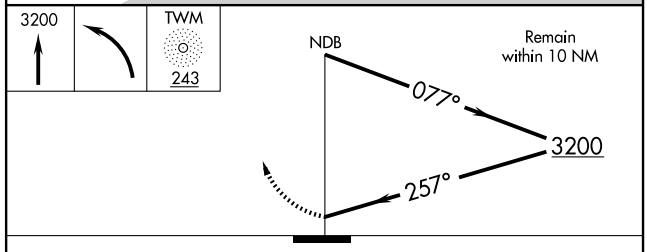
TWO HARBORS/ RICHARD B HELGESON (TWM)

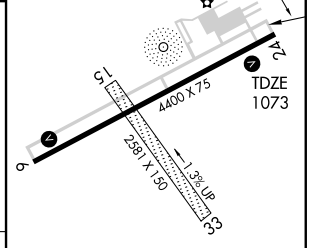
NA

MISSED APPROACH: Climb to 3200 then left turn direct TWM NDB and hold.

AWOS-3	DULUTH APP CON ★	GCO	CTAF
119.325	125.45 255.9	121.725	122.9 L







CATEGORY	A	B	C	D
S-24	1700-1 627 (700-1)		NA	
CIRCLING	1700-1 620 (700-1)	1740-1 660 (700-1)	NA	

MIRL Rwy 6-24 L
REIL Rwys 6 and 24 L

NC-1. 08 APR 2010 to 06 MAY 2010

WADENA, MINNESOTA

AL-9365 (FAA)

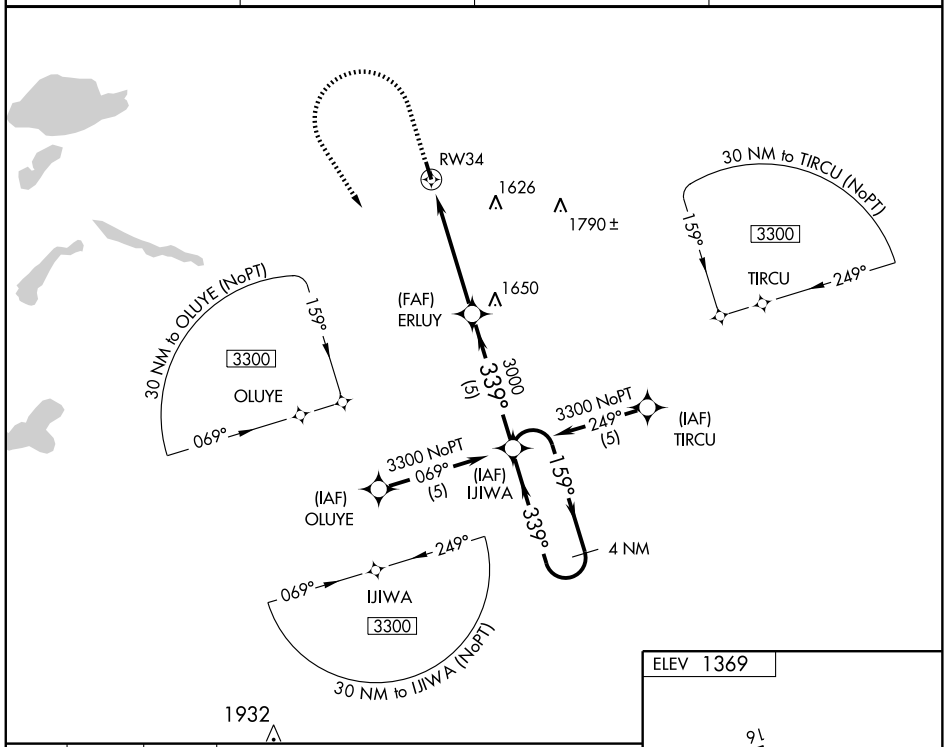
RNAV (GPS) RWY 34
WADENA MUNI (ADC)

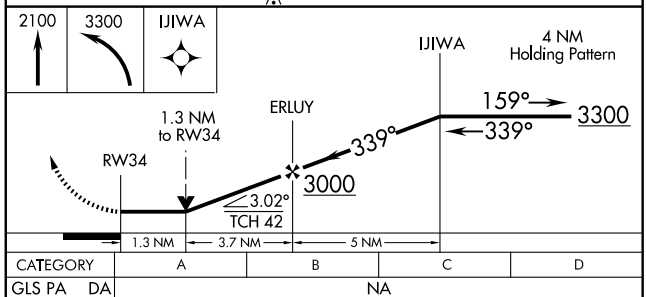
APP CRS	Rwy ldg	4005
339°	TDZE	1366
	Apt Elev	1369

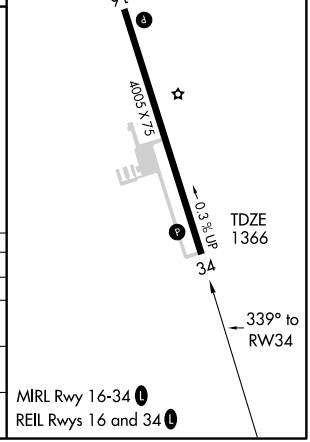
NA
GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 2100 then climbing left turn to 3300 direct IJIWA WP and hold.

AWOS-3	MINNEAPOLIS CENTER	GCO	UNICOM
128.325	126.1 269.2	121.725	122.8 (CTAF) L







MIRL Rwy 16-34 L
REIL Rwys 16 and 34 L

CATEGORY	A	B	C	D
GLS PA DA	NA			
LNAV/VNAV DA	NA			
LNAV MDA	1820-1 454 (500-1)		1820-1¼ 454 (500-1¼)	1820-1½ 454 (500-1½)
CIRCLING	1820-1 451 (500-1)		1820-1½ 451 (500-1½)	1920-2 551 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	3205
306°	TDZE	885
	Apt Elev	886

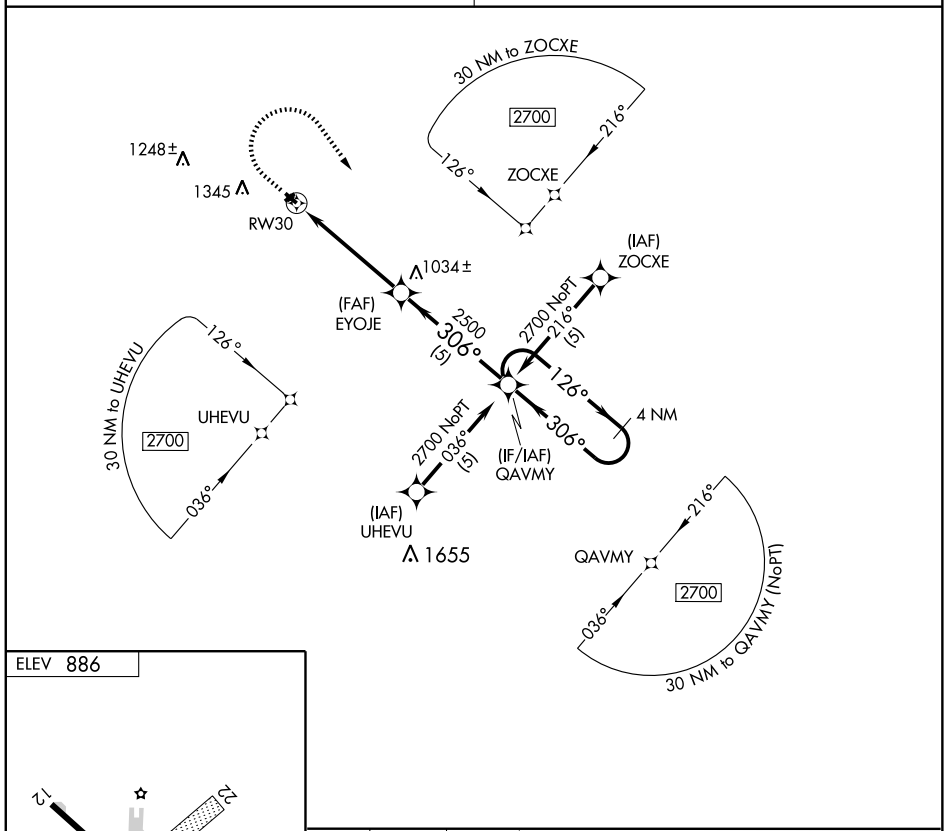
RNAV (GPS) RWY 30
WARREN MUNI (D37)

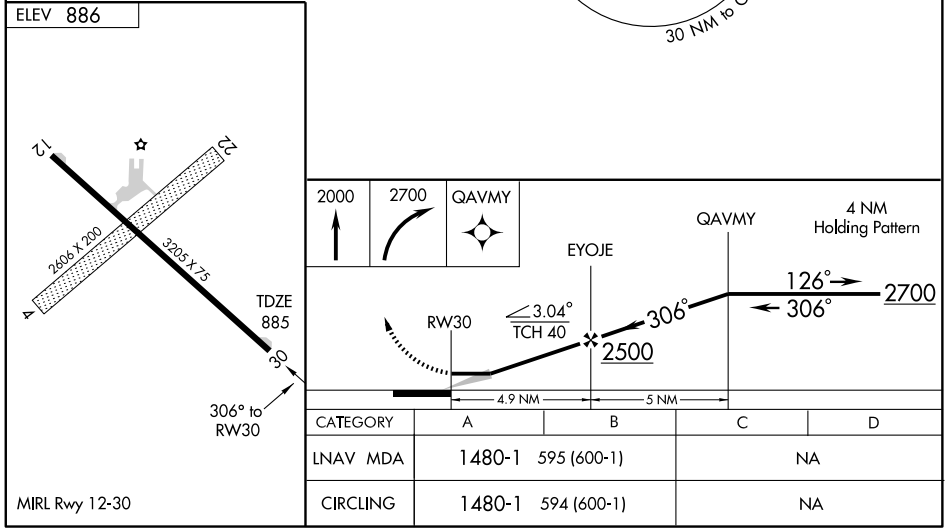
T NA

Use Crookston Muni-Kirkwood Field altimeter setting. GPS or RNP -0.3 required. DME/DME RNP- 0.3 NA.

MISSED APPROACH: Climb to 2000, then climbing right turn to 2700 direct QAVMY WP and hold.

GRAND FORKS APP CON	UNICOM
118.1 318.1	**122.8** (CTAF)





CATEGORY	A	B	C	D
LNAV MDA	1480-1 595 (600-1)		NA	
CIRCLING	1480-1 594 (600-1)		NA	

MIRL Rwy 12-30

NC-1. 08 APR 2010 to 06 MAY 2010

LOC/DME I-SWE	APP CRS	Rwy ldg	5400
110.1	315°	TDZE	1074
Chan 38		Apt Elev	1074

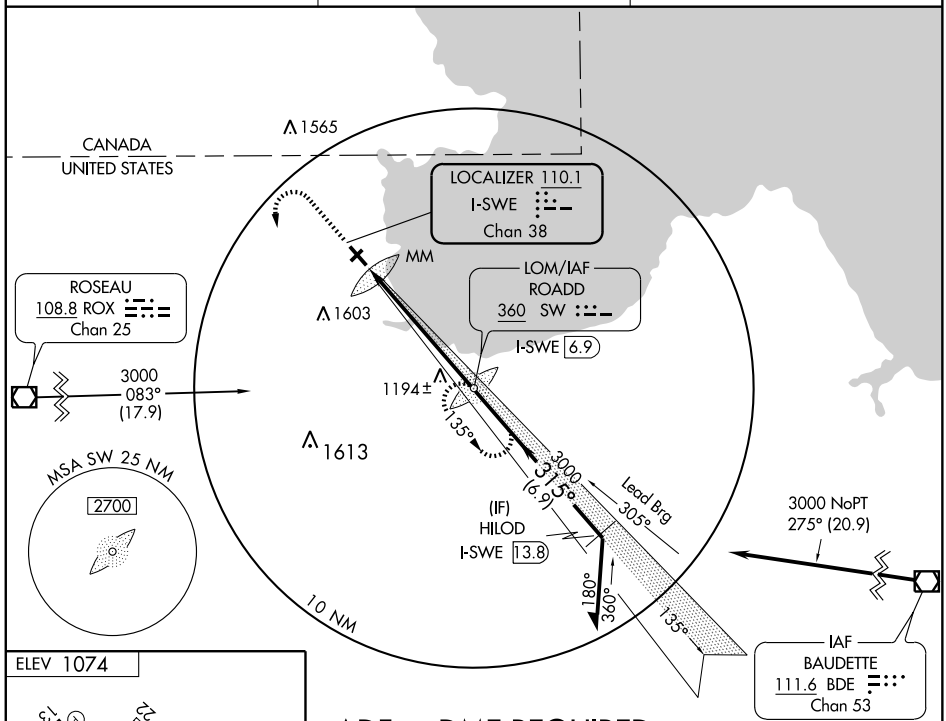
ILS or LOC RWY 31
WARROAD INTL MEMORIAL (RRT)

NA

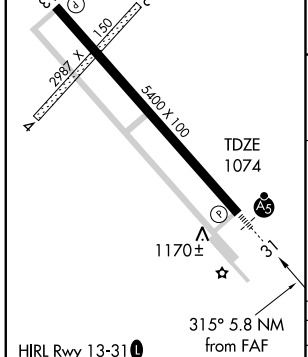
MALSR

MISSED APPROACH: Climb to 3000 then left turn direct ROADD LOM and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
119.925	134.75 251.1	123.05 (CTAF) L

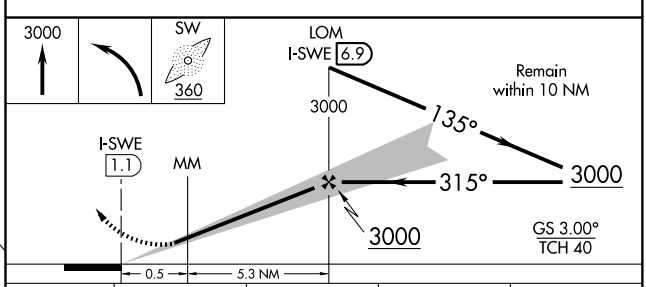


ADF or DME REQUIRED



HIRL Rwy 13-31 L
REIL Rwy 13 L

FAF to MAP 5.8 NM					
Knots	60	90	120	150	180
Min:Sec	5:48	3:52	2:54	2:19	1:56



CATEGORY	A	B	C	D
S-ILS 31	1274-½ 200 (200-½)			
S-LOC 31	1460-½ 386 (400-½)			1460-¾ 386 (400-¾)
CIRCLING	1500-1 426 (500-1)	1540-1 466 (500-1)	1540-1½ 466 (500-1½)	1640-2 566 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

LOM SW	APP CRS	Rwy ldg	5400
360	315°	TDZE	1074
		Apt Elev	1074

NDB RWY 31

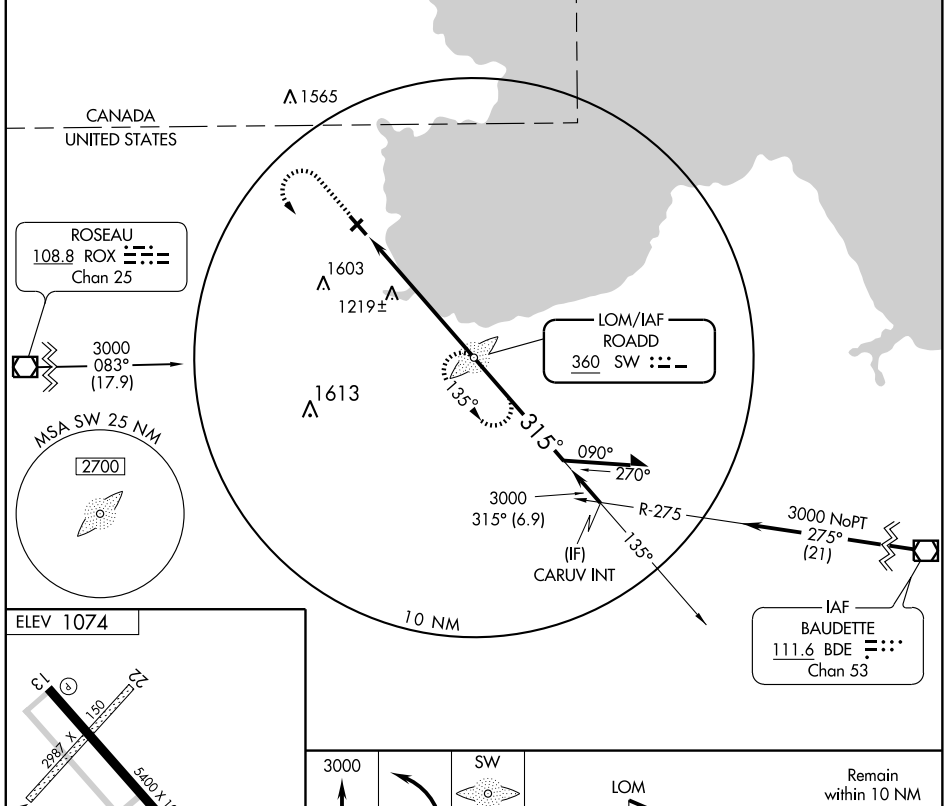
WARROAD INTL MEMORIAL (RRT)

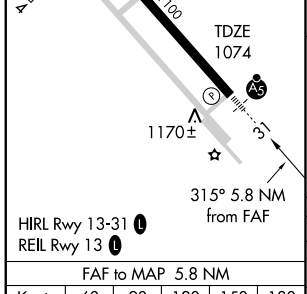
When local altimeter setting not received, use Roseau altimeter setting and increase all MDAs 40 feet and increase S-31 Cat C visibility ¼ mile.

MALSR

MISSED APPROACH: Climb to 3000 then left turn direct ROADD LOM and hold.

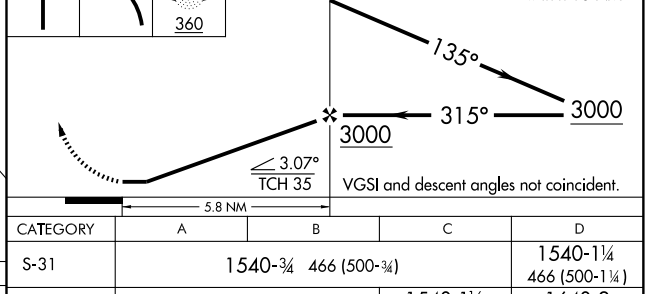
AWOS-3	MINNEAPOLIS CENTER	UNICOM
119.925	134.75 251.1	123.05 (CTAF) L





HIRL Rwy 13-31 L
REIL Rwy 13 L

FAF to MAP 5.8 NM					
Knots	60	90	120	150	180
Min:Sec	5:48	3:52	2:54	2:19	1:56



CATEGORY	A	B	C	D
S-31	1540-¾ 466 (500-¾)			1540-1¼ 466 (500-1¼)
CIRCLING	1540-1 466 (500-1)		1540-1½ 466 (500-1½)	1640-2 566 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

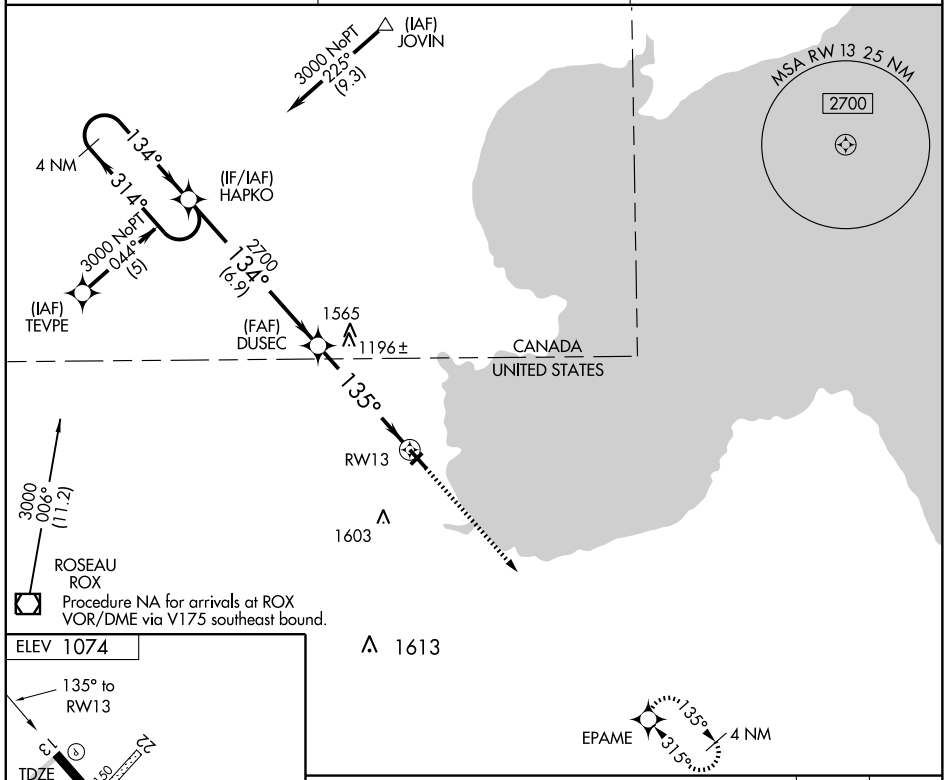
APP CRS	Rwy ldg	5400
135°	TDZE	1073
	Apt Elev	1074

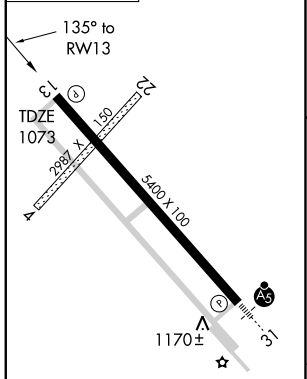
RNAV (GPS) RWY 13
WARROAD INTL MEMORIAL (RRT)

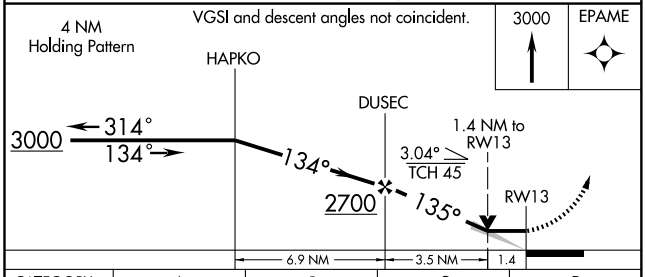
DME/DME RNP-0.3 NA.
When local altimeter setting not received, use Roseau altimeter setting and increase all MDAs 40 feet, and LNAV Cat C and D visibilities ¼ mile. VDP NA when using Roseau altimeter setting.

MISSED APPROACH: Climb to 3000 direct EPAME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
119.925	134.75 251.1	123.05 (CTAF) L







CATEGORY	A	B	C	D
LNAV MDA	1560-1 487 (500-1)		1560-1¼ 487 (500-1¼)	1560-1½ 487 (500-1½)
CIRCLING	1560-1 486 (500-1)		1560-1½ 486 (500-1½)	1640-2 566 (600-2)

HIRL Rwy 13-31 L
REIL Rwy 13 L

NC-1. 08 APR 2010 to 06 MAY 2010

WAAS CH 42706 W31A	APP CRS 315°	Rwy ldg 5400 TDZE 1074 Apt Elev 1074

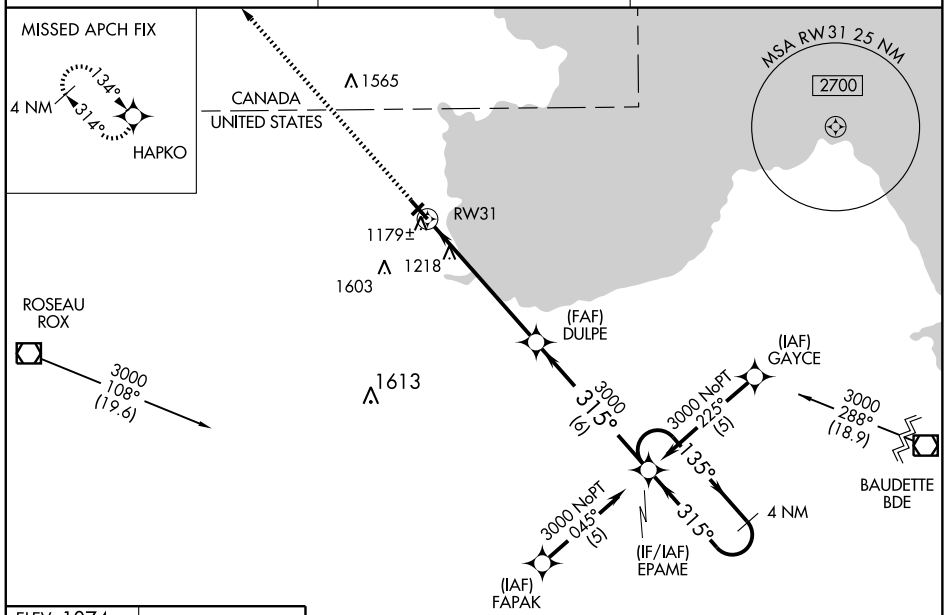
RNAV (GPS) RWY 31
WARROAD INTL MEMORIAL (RRT)

Baro-VNAV NA when using Roseau altimeter setting. DME/DME RNP-0.3 NA. When local altimeter setting not received, use Roseau altimeter setting and increase all DAs 36 feet and all MDAs 40 feet and increase, LNAV/VNAV all Cats and LNAV Cat D visibilites ¼ mile. VDP NA when using Roseau altimeter setting. For inoperative MALSR when using Roseau altimeter setting increase LPV all Cats visibility to 1 mile. For uncompensated Baro-VNAV systems, LNAV-VNAV NA below -17°C (2°F) or above 47°C (116°F).

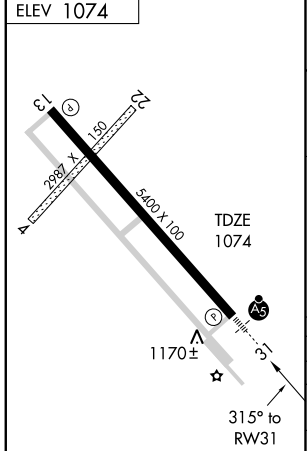
MALSR

MISSED APPROACH: Climb to 3000 direct HAPKO and hold.

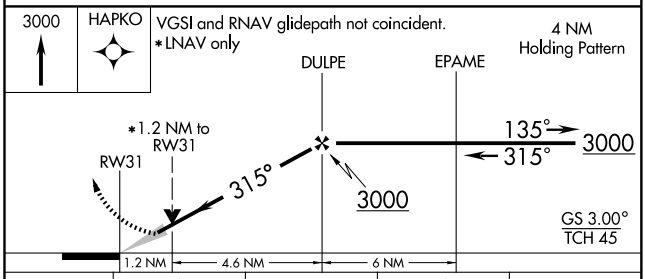
AWOS-3	MINNEAPOLIS CENTER	UNICOM
119.925	134.75 251.1	123.05 (CTAF) L



Procedure NA for arrivals at ROX VOR/DME via V175 northbound and arrivals at BDE VOR/DME via V217 southeast bound.



HIRL Rwy 13-31 L
REIL Rwy 13 L



CATEGORY	A	B	C	D
LPV DA	1324-½ 250 (300-½)			
LNAV/VNAV DA	1449-¾ 375 (400-¾)			
LNAV MDA	1480-½ 406 (500-½)		1480-¾ 406 (500-¾)	1480-1 406 (500-1)
CIRCLING	1500-1 426 (500-1)	1540-1 466 (500-1)	1540-1½ 466 (500-1½)	1640-2 566 (600-2)

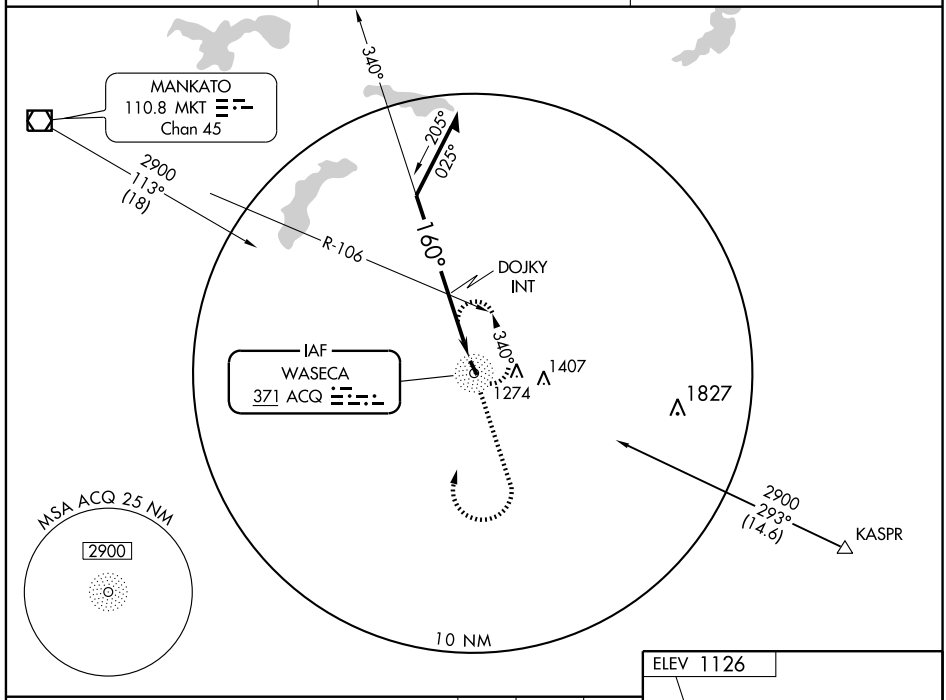
NDB ACQ	APP CRS	Rwy ldg	3398
371	160°	TDZE	1126
		Apt Elev	1126

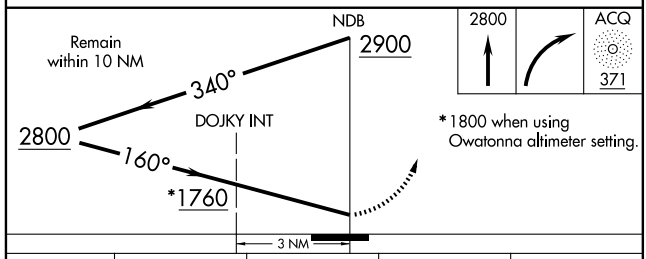
NDB RWY 15
WASECA MUNI (ACQ)

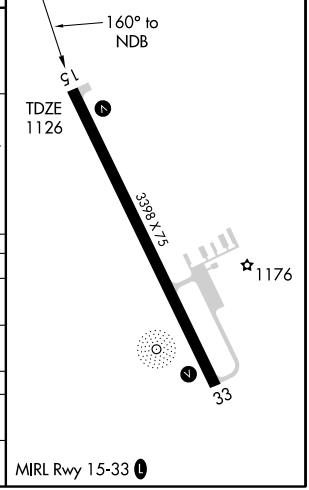
NA When local altimeter setting not received, use Owatonna altimeter setting and increase all MDA 40 feet and increase all Cat C visibilities ¼ mile.

MISSED APPROACH: Climb to 2800 then right turn direct ACQ NDB and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
371	132.35 307.3	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-15	1760-1 634 (700-1)		1760-1¾ 634 (700-1¾)	NA
CIRCLING	1760-1 634 (700-1)		1760-1¾ 634 (700-1¾)	NA
DOJKY FIX MINIMUMS				
S-15	1720-1 594 (600-1)		1720-1½ 594 (600-1½)	NA
CIRCLING	1720-1 594 (600-1)		1720-1½ 594 (600-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

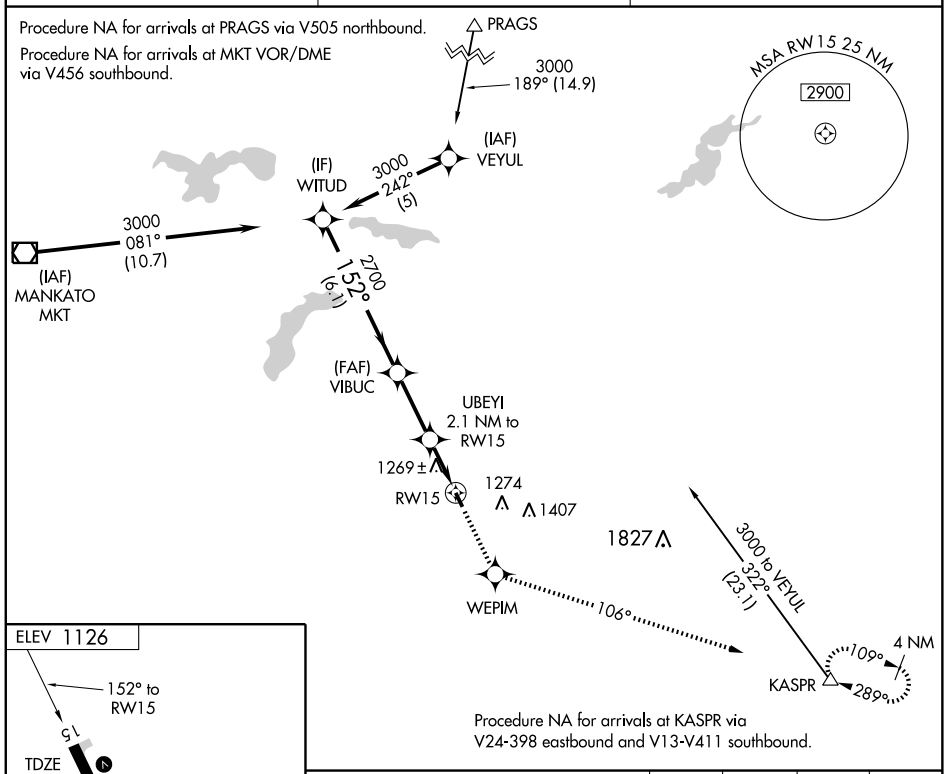
APP CRS	Rwy ldg	3398
152°	TDZE	1126
	Apt Elev	1126

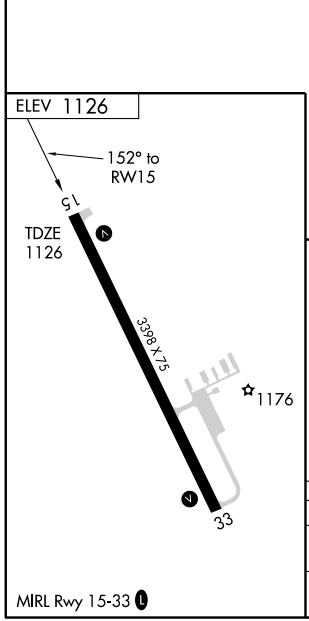
RNAV (GPS) RWY 15
WASECA MUNI (ACQ)

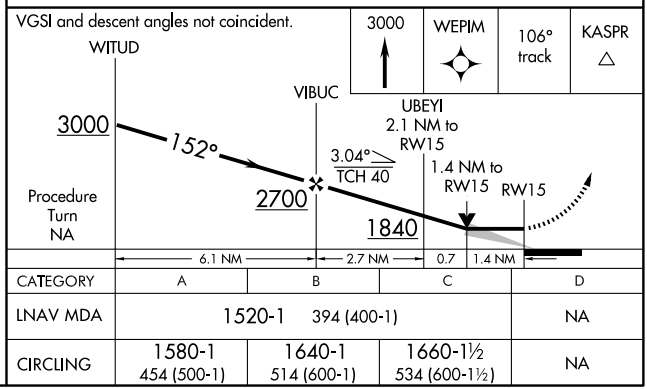
DME/DME RNP-0.3 NA.
VDP NA when using Owatonna altimeter setting.
When local altimeter setting not received, use Owatonna altimeter setting and increase all MDA 40 feet and LNAV Cat. C visibility ¼ mile.

MISSED APPROACH: Climb to 3000 direct WEPIM and via 106° track to KASPR and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
371	132.35 307.3	122.8 (CTAF) L







CATEGORY	A	B	C	D
LNAV MDA	1520-1 394 (400-1)			NA
CIRCLING	1580-1 454 (500-1)	1640-1 514 (600-1)	1660-1½ 534 (600-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

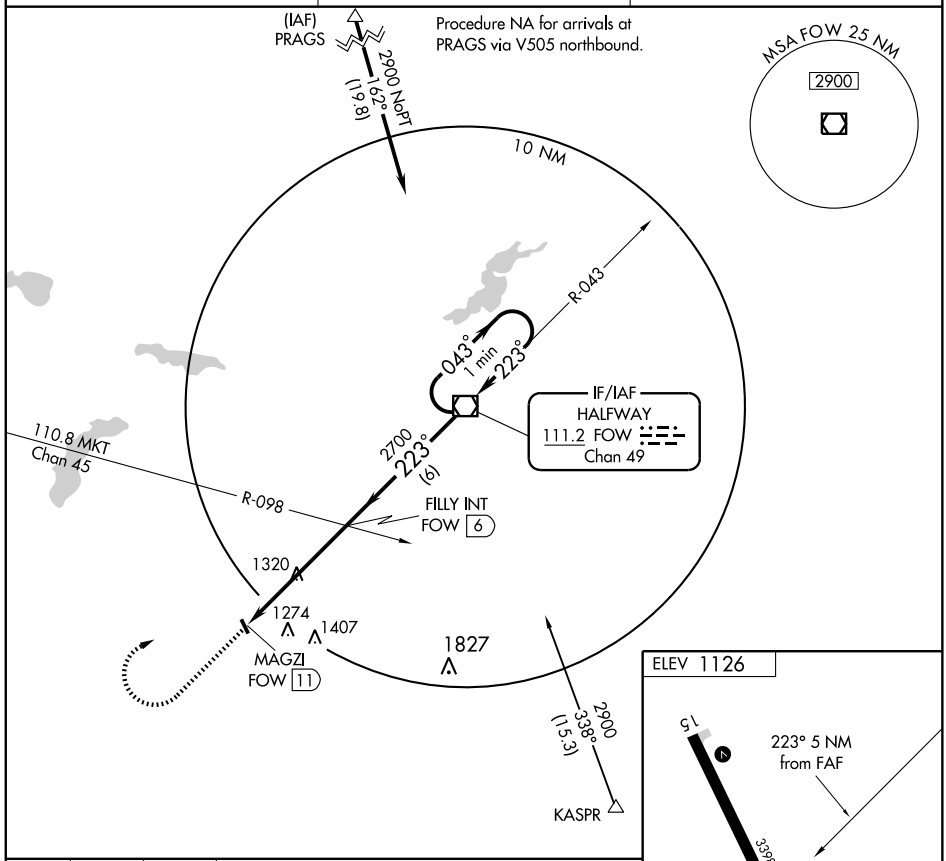
VOR/DME FOW 111.2 Chan 49	APP CRS 223°	Rwy ldg N/A TDZE N/A Apt Elev 1126

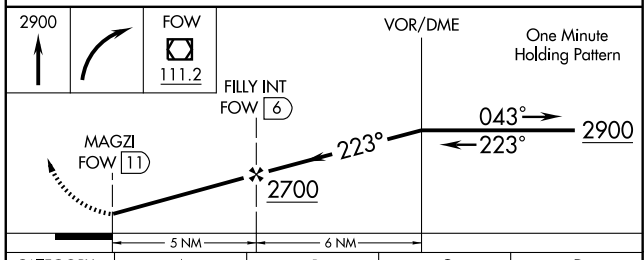
VOR-A
WASECA MUNI (ACQ)

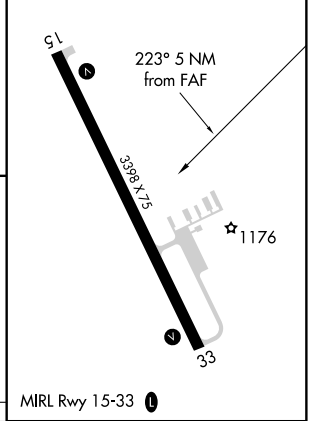
When local altimeter setting not received, use Owatonna altimeter setting and increase all MDA 40 feet.

MISSED APPROACH: Climb to 2900 then right turn direct FOW VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
371	132.35 307.3	122.8 (CTAF) L







CATEGORY	A	B	C	D
CIRCLING	1620-1 494 (500-1)	1640-1 514 (600-1)	1660-1½ 534 (600-1½)	NA

FAF to MAP 5 NM					
Knots	60	90	120	150	180
Min:Sec	5:00	3:20	2:30	2:00	1:40

NC-1. 08 APR 2010 to 06 MAY 2010

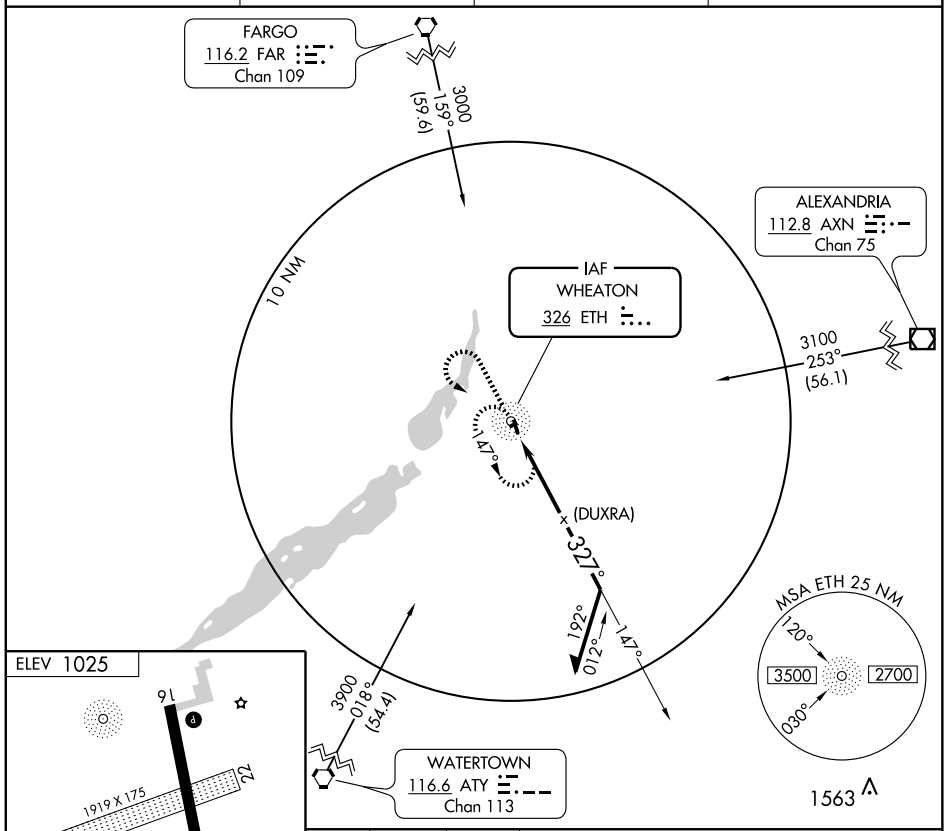
NDB ETH	APP CRS	Rwy ldg	3300
326	327°	TDZE	1022
		Apt Elev	1025

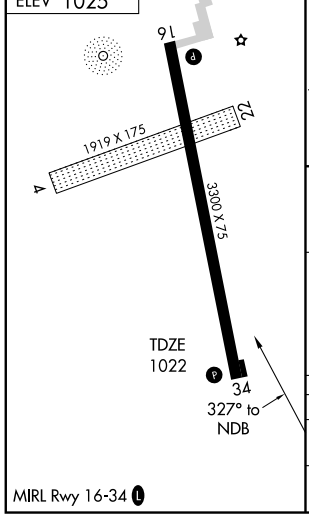
NDB or GPS RWY 34
WHEATON MUNI (ETH)

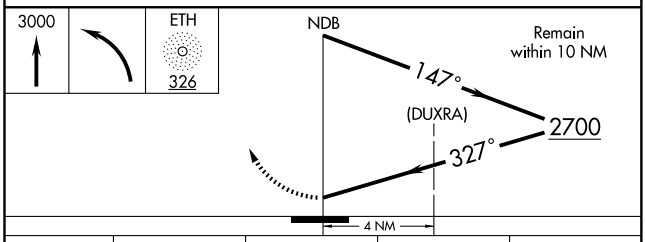
NA

MISSED APPROACH: Climb to 3000 then left turn direct ETH NDB and hold.

AWOS-3	MINNEAPOLIS CENTER	PRINCETON RADIO	UNICOM
326	126.1 269.2	122.25	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-34	1540-1 518 (600-1)		1540-1½ 518 (600-1½)	NA
CIRCLING	1540-1 515 (600-1)		1540-1½ 515 (600-1½)	NA

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-BDH	APP CRS	Rwy ldg	5500
109.5	126°	TDZE	1124
		Apt Elev	1126

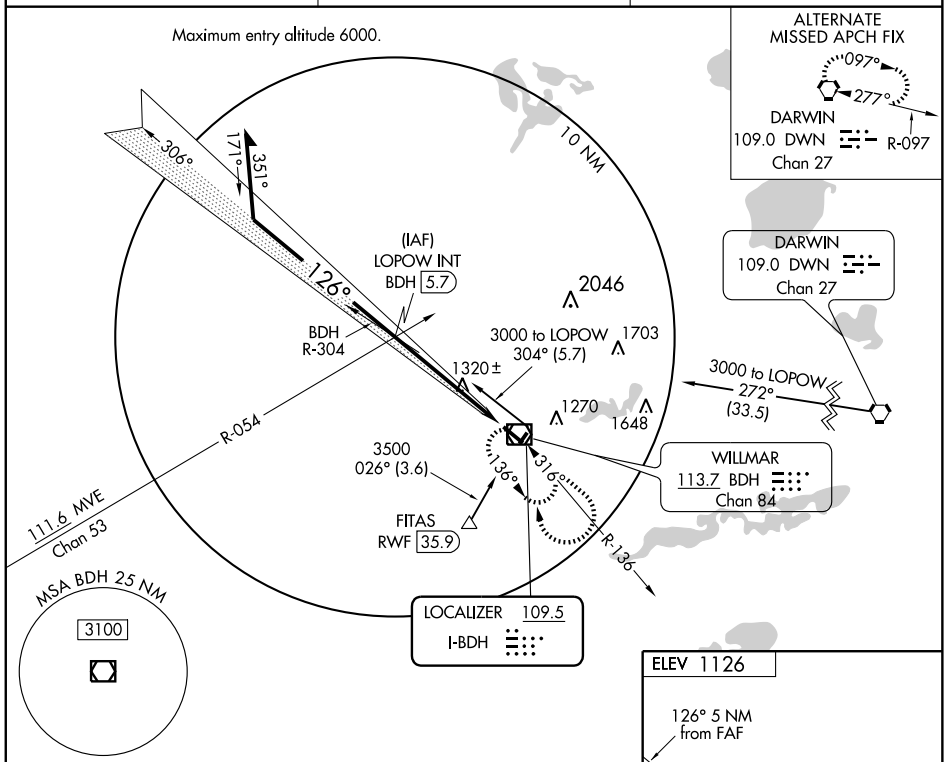
ILS or LOC RWY 13

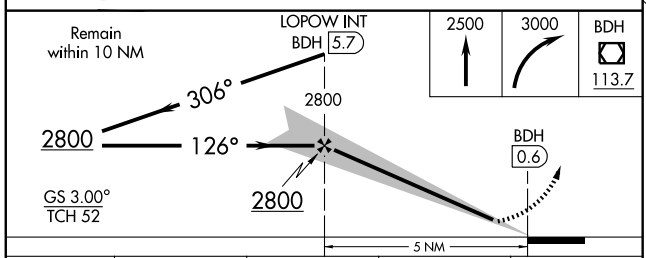
WILLMAR MUNI-JOHN L RICE FIELD (BDH)

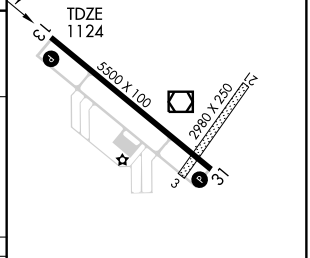
T NA — If local altimeter setting not received, use Olivia Rgnl altimeter setting and increase all DAs 55 feet and all MDAs 60 feet.

MISSED APPROACH: Climb to 2500 then climbing right turn to 3000 direct BDH VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
113.7	125.5 323.1	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-ILS 13	1324-¾ 200 (200-¾)			
S-LOC 13	1620-1 496 (500-1)		1620-1¼ 496 (500-1¼)	1620-1½ 496 (500-1½)
CIRCLING	1620-1 494 (500-1)		1620-1½ 494 (500-1½)	1680-2 554 (600-2)

HIRL Rwy 13-31 L
REIL Rwy 31 L

FAF to MAP 5 NM					
Knots	60	90	120	150	180
Min:Sec	5:00	3:20	2:30	2:00	1:40

NC-1. 08 APR 2010 to 06 MAY 2010

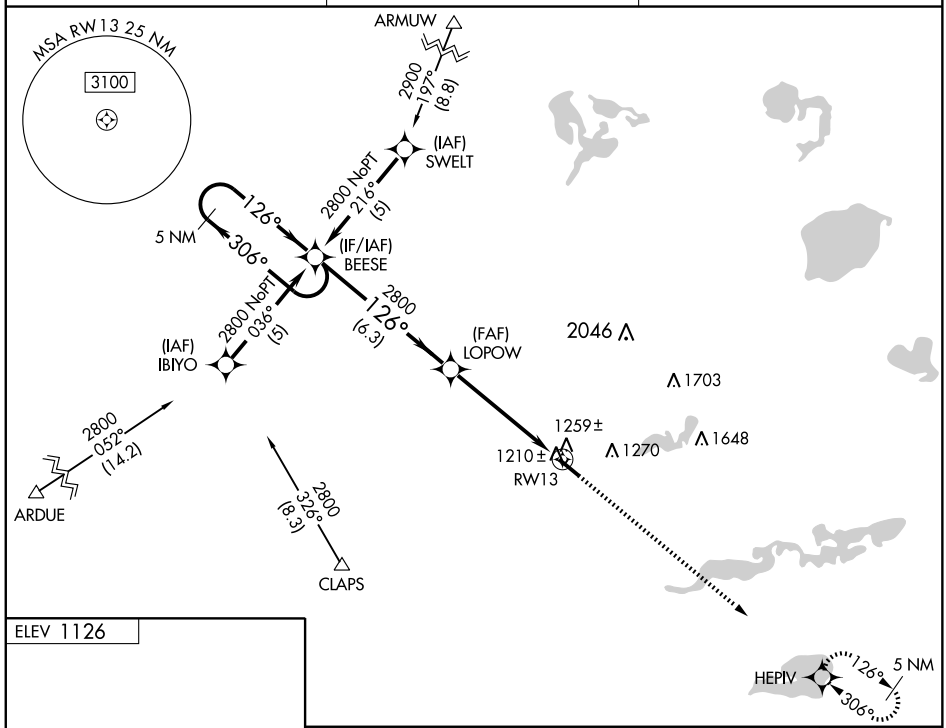
WAAS CH 93902 W13A	APP CRS 126°	Rwy ldg 5500 TDZE 1124 Apt Elev 1126

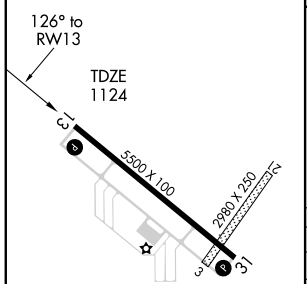
RNAV (GPS) RWY 13
WILLMAR MUNI-JOHN L RICE FIELD (BDH)

If local altimeter setting not received, use Olivia Rgnl altimeter setting and increase all DAs/MDAs 60 feet. DME/DME RNP -0.3 NA.
For uncompensated Baro-VNAV systems, LNAV/VNAV NA below -17°C (2°F) or above 46°C (116°F).
Baro-VNAV and VDP NA when using Olivia Rgnl altimeter setting.

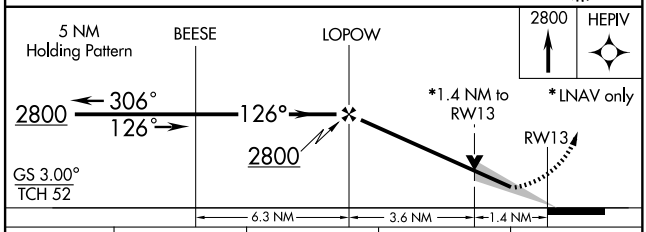
MISSED APPROACH: Climb to 2800 direct HEPIV and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
113.7	125.5 323.1	122.8 (CTAF) L





HIRL Rwy 13-31 L
REIL Rwy 31 L



CATEGORY	A	B	C	D
LPV DA	1387-1 263 (300-1)			
LNAV/VNAV DA	1480-1¼ 356 (400-1¼)			
LNAV MDA	1620-1 496 (500-1)		1620-1¼ 496 (500-1¼)	1620-1½ 496 (500-1½)
CIRCLING	1620-1 494 (500-1)		1620-1½ 494 (500-1½)	1680-2 554 (600-2)

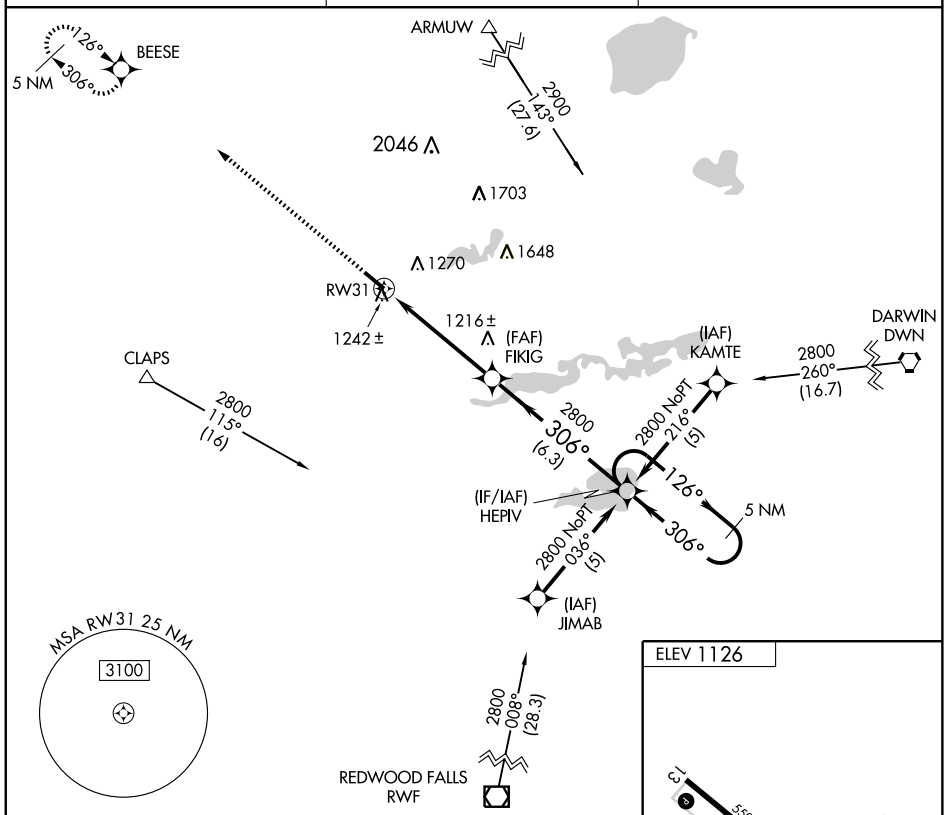
APP CRS	Rwy ldg	5500
306°	TDZE	1126
	Apt Elev	1126

RNAV (GPS) RWY 31
WILLMAR MUNI-JOHN L RICE FIELD (BDH)

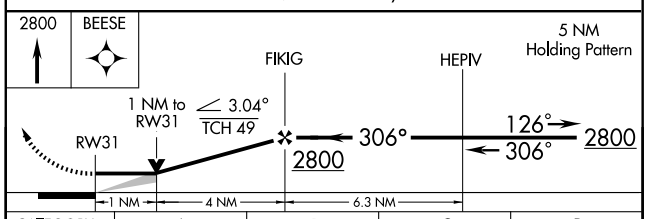
If local altimeter setting not received, use Olivia Rgnl altimeter setting and increase all MDAs 60 feet.
VDP NA with Olivia Rgnl altimeter setting.
DME/DME RNP -0.3 NA.

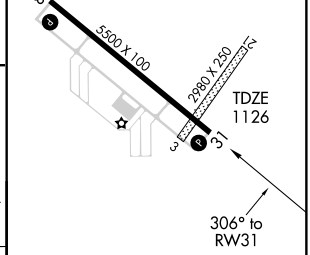
MISSED APPROACH: Climb to 2800 direct BEESE and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
113.7	125.5 323.1	122.8 (CTAF) L



Procedure NA for arrival at RWF VOR/DME on airway radials 054 CW 060.





CATEGORY	A	B	C	D
LNAV MDA	1500-1 374 (400-1)			1500-1¼ 374 (400-1¼)
CIRCLING	1520-1 394 (400-1)	1580-1 454 (500-1)	1580-1½ 454 (500-1½)	1680-2 554 (600-2)

HIRL Rwy 13-31 L
REIL Rwy 31 L

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME BDH 113.7 Chan 84	APP CRS 119°	Rwy ldg 5500 TDZE 1124 Apt Elev 1126

VOR RWY 13

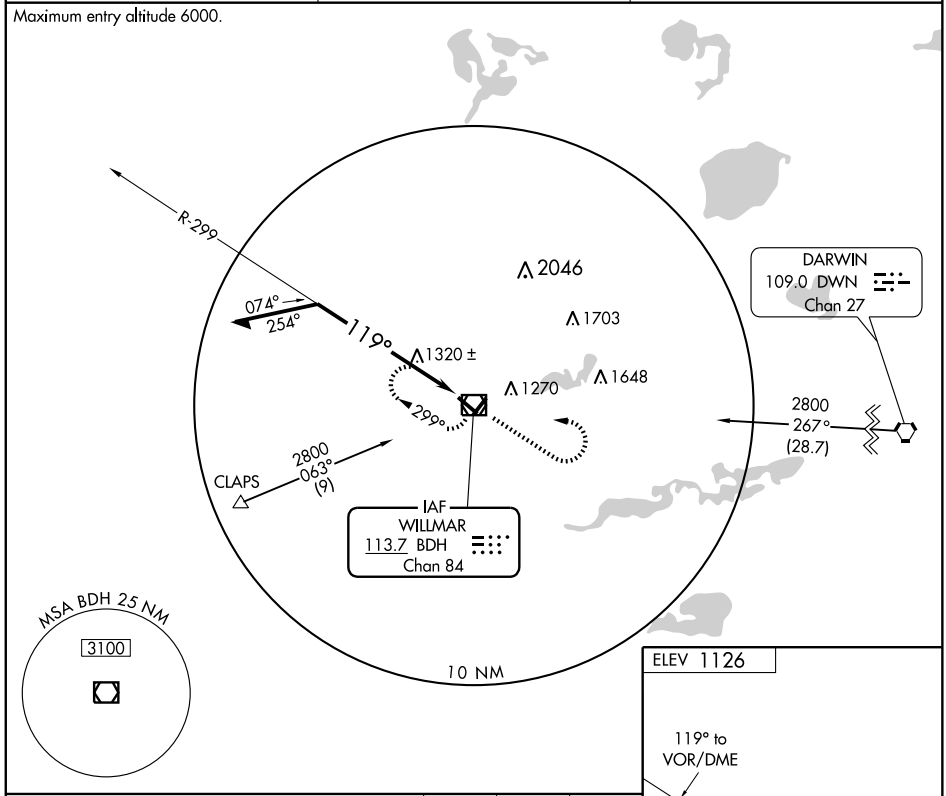
WILLMAR MUNI-JOHN L RICE FIELD (BDH)

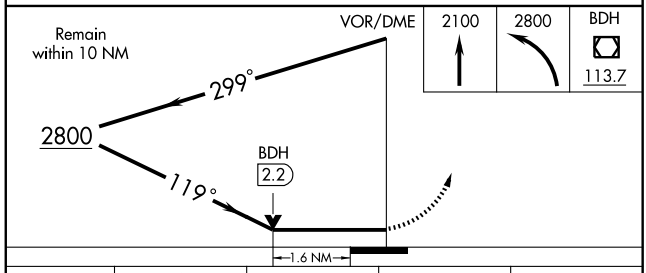
If local altimeter setting not received, use Olivia Rgnl altimeter setting and increase all MDAs 60 feet.
VDP NA with Olivia Rgnl altimeter setting.

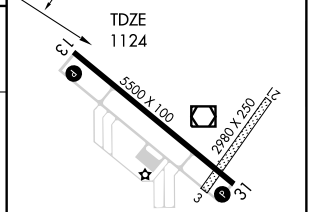
MISSED APPROACH: Climb to 2100, then climbing left turn to 2800 direct BDH VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
113.7	125.5 323.1	122.8 (CTAF) L

Maximum entry altitude 6000.







CATEGORY	A	B	C	D
S-13	1680-1	556 (600-1)	1680-1½ 556 (600-1½)	1680-1¾ 556 (600-1¾)
CIRCLING	1680-1	554 (600-1)	1680-1½ 554 (600-1½)	1680-2 554 (600-2)

HIRL Rwy 13-31 L
REIL Rwy 31 L

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME BDH 113.7 Chan 84	APP CRS 316°	Rwy ldg 5500 TDZE 1126 Apt Elev 1126

VOR RWY 31

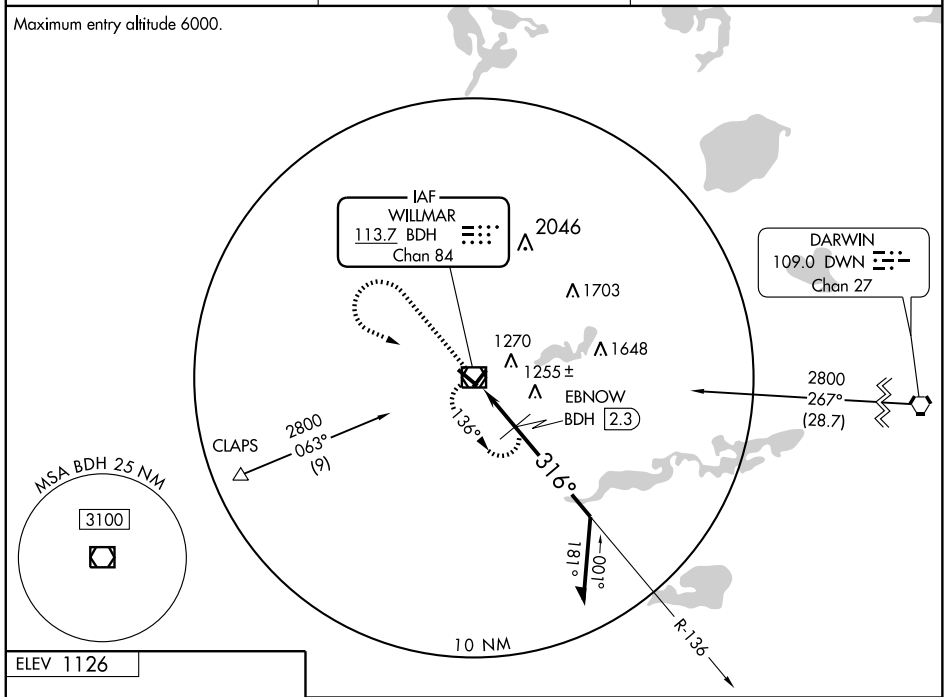
WILLMAR MUNI-JOHN L RICE FIELD (BDH)

If local altimeter setting not received, use Olivia Rgnl altimeter setting and increase all MDAs 60 feet.
VDP NA with Olivia Rgnl altimeter setting.

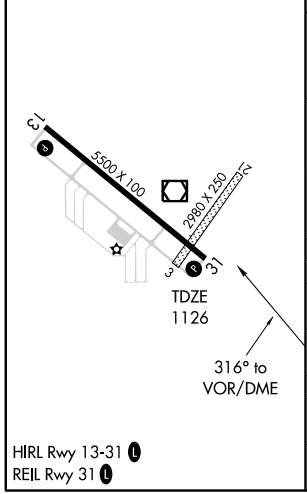
MISSED APPROACH: Climb to 2000, then climbing left turn to 2800 direct BDH VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
113.7	125.5 323.1	122.8 (CTAF) L

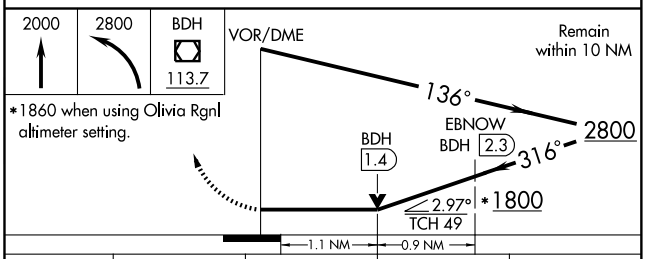
Maximum entry altitude 6000.



ELEV 1126



HIRL Rwy 13-31 L
REIL Rwy 31 L



*1860 when using Olivia Rgnl altimeter setting.

CATEGORY	A	B	C	D
S-31	1800-1 674 (700-1)		1800-2 674 (700-2)	1800-2¼ 674 (700-2¼)
CIRCLING	1800-1 674 (700-1)		1800-2 674 (700-2)	1800-2¼ 674 (700-2¼)
EBNOW FIX MINIMUMS				
S-31	1520-1 394 (400-1)			1520-1¼ 394 (400-1¼)
CIRCLING	1520-1 394 (400-1)	1580-1 454 (500-1)	1580-1½ 454 (500-1½)	1680-2 554 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

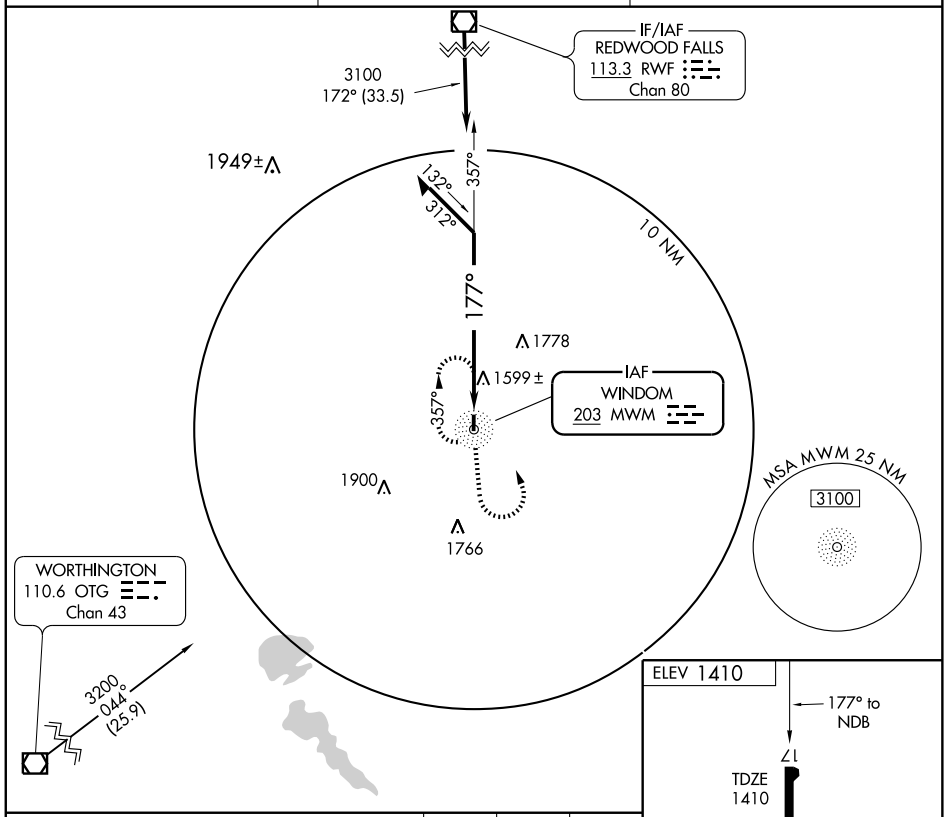
NDB MWM	APP CRS	Rwy ldg	3599
203	177°	TDZE	1410
		Apt Elev	1410

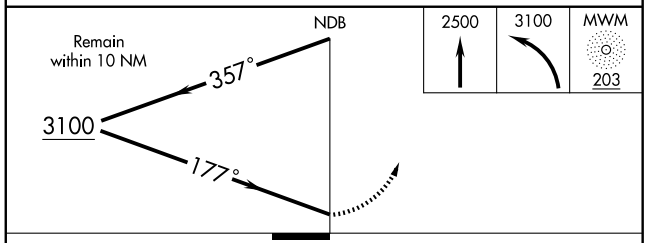
NDB RWY 17
WINDOM MUNI (MWM)

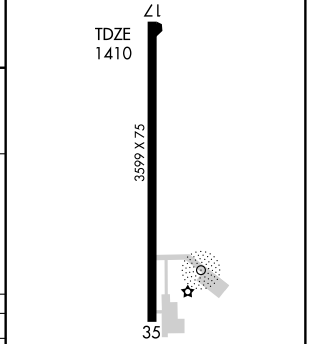
Circling not authorized at night to Rwy 35.

MISSED APPROACH: Climb to 2500 then climbing left turn to 3100 direct MWM NDB and hold.

AWOS-3	MINNEAPOLIS CENTER	CTAF
118.525	127.1 290.2	122.9 L







CATEGORY	A	B	C	D
S-17	1960-1	550 (600-1)	1960-1½ 550 (600-1½)	NA
CIRCLING	1960-1	550 (600-1)	1960-1½ 550 (600-1½)	NA

MIRL Rwy 17-35 L
REIL Rwys 17 and 35 L

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	3599
177°	TDZE	1410
	Apt Elev	1410

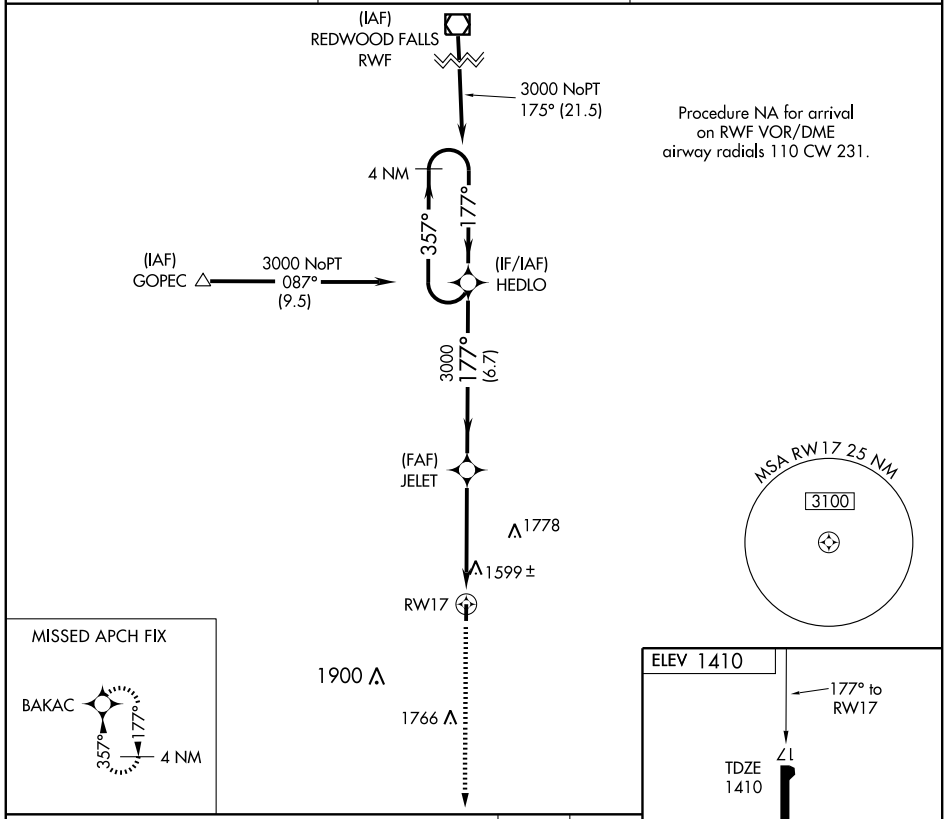
RNAV (GPS) RWY 17
WINDOM MUNI (MWM)

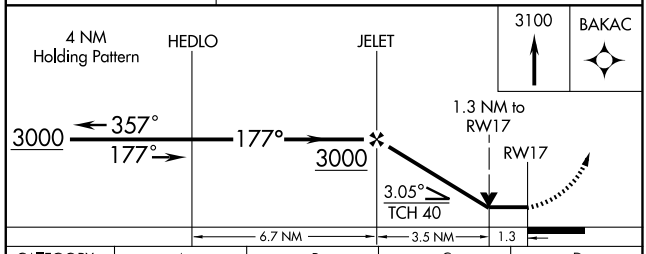
NA

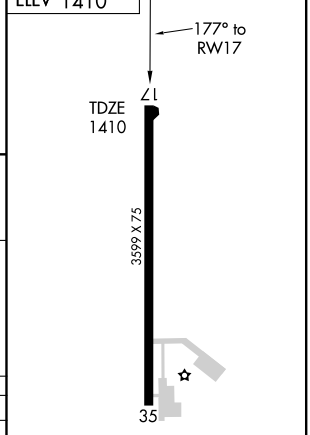
GPS or RNP-0.3 required. DME/DME RNP-0.3 NA. Circling not authorized at night to Rwy 35.

MISSED APPROACH: Climb to 3100 direct BAKAC and hold.

AWOS-3	MINNEAPOLIS CENTER	CTAF
118.525	127.1 290.2	122.9 L







CATEGORY	A	B	C	D
LNAV MDA	1860-1 450 (500-1)		1860-1¼ 450 (500-1¼)	NA
CIRCLING	1900-1 490 (500-1)		1900-1½ 490 (500-1½)	NA

MIRL Rwy 17-35 L
REIL Rwys 17 and 35 L

NC-1. 08 APR 2010 to 06 MAY 2010

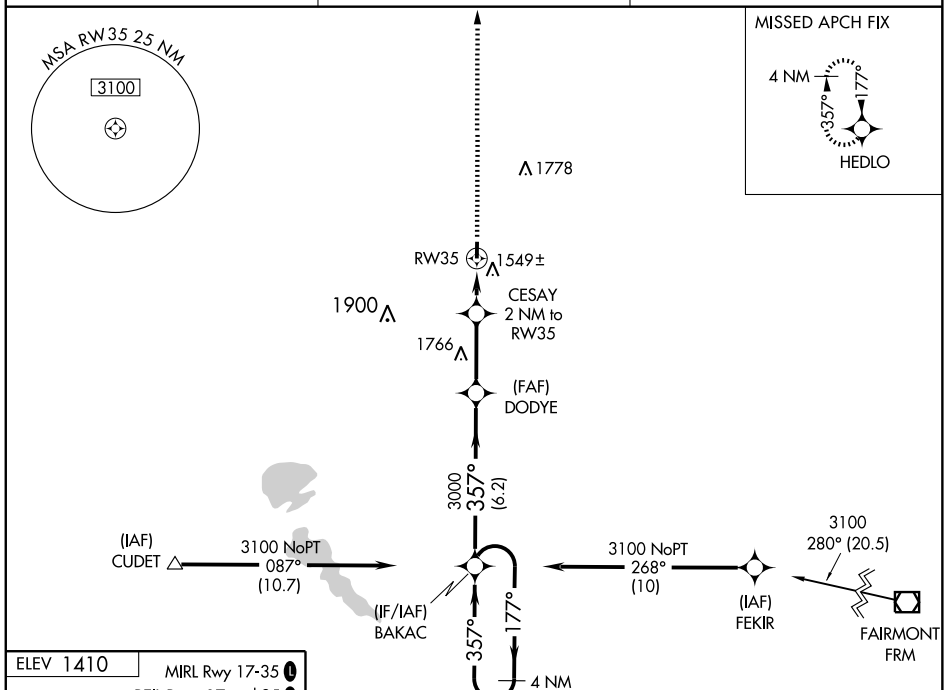
APP CRS	Rwy ldg	3599
357°	TDZE	1410
	Apt Elev	1410

RNAV (GPS) RWY 35
WINDOM MUNI (MWM)

NA GPS or RNP-0.3 required. DME/DME RNP-0.3 NA. Procedure not authorized at night.

MISSED APPROACH: Climb to 3000 direct HEDLO WP and hold.

AWOS-3	MINNEAPOLIS CENTER	CTAF
118.525	127.1 290.2	122.9 L

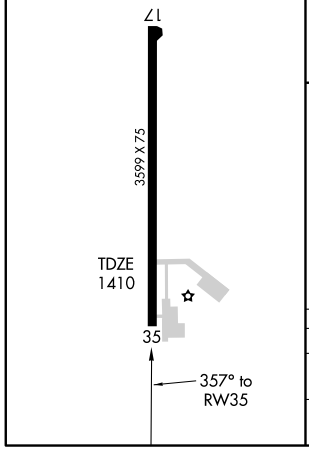


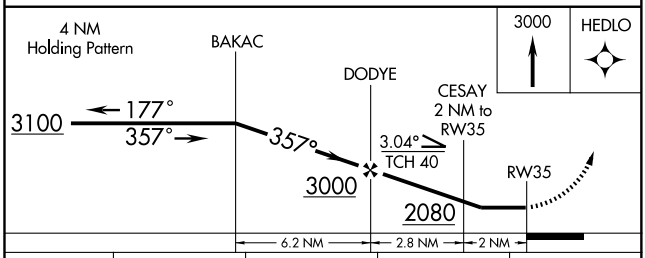
Procedure NA for arrival on FRM VOR/DME airway radials 217 CW 336 and arrivals at CUDET via V250 southwestbound.

ELEV 1410

MIRL Rwy 17-35 L

REIL Rwys 17 and 35 L





CATEGORY	A	B	C	D
LNAV MDA	1800-1 390 (400-1)			NA
CIRCLING	1900-1 490 (500-1)		1900-1½ 490 (500-1½)	NA

LOC/DME I-ONA	APP CRS	Rwy ldg 5199
109.35	298°	TDZE 656
Chan 30 (Y)		Apt Elev 656

LOC RWY 30

WINONA MUNI-MAX CONRAD FIELD (ONA)

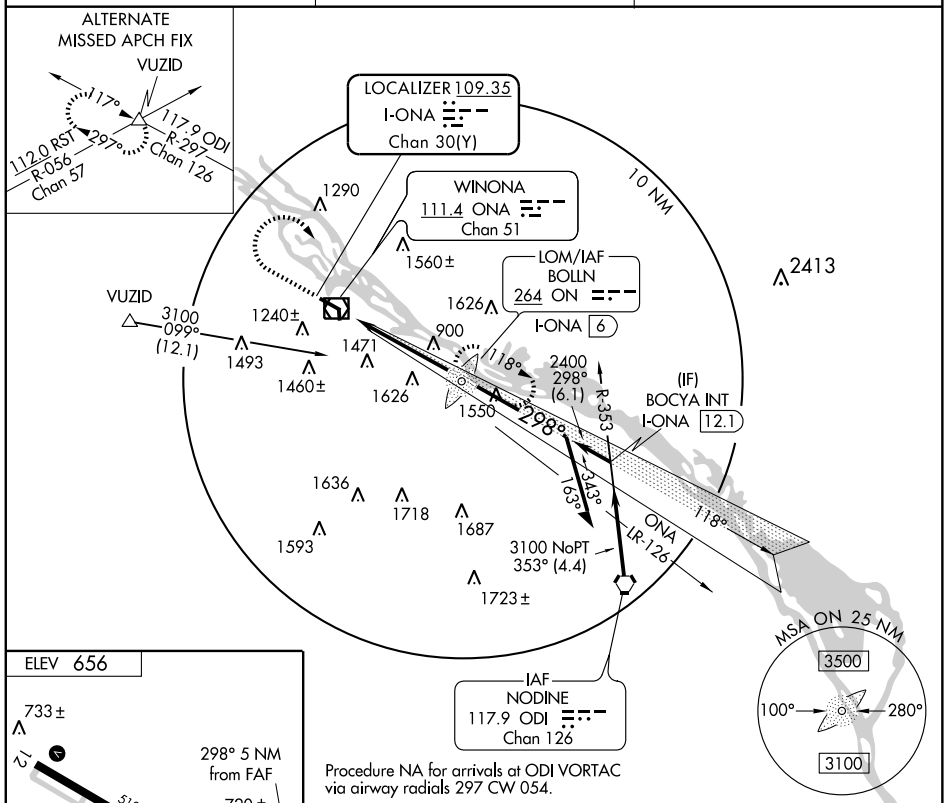
ADF required. When local altimeter setting not received, use La Crosse altimeter setting and increase all MDA 60 feet and increase S-30 Cats C and D visibility ¼ mile. VDP NA when using La Crosse altimeter setting.

NA

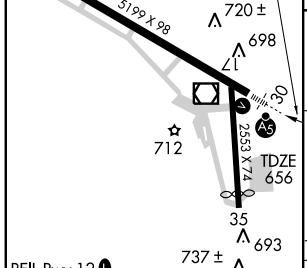
MALSR

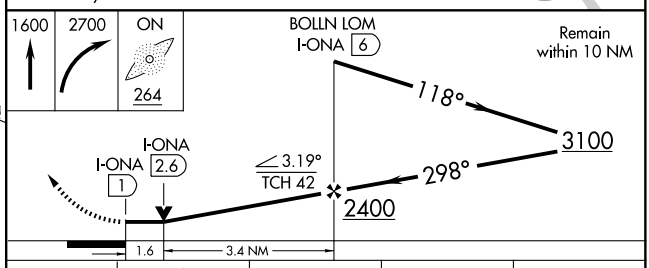
MISSED APPROACH: Climb to 1600 then climbing right turn to 2700 direct BOLLN LOM/I-ONA 6 DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
111.4	128.6 363.0	122.8 (CTAF) L



Procedure NA for arrivals at ODI VORTAC via airway radials 297 CW 054.





FAF to MAP 5 NM					
Knots	60	90	120	150	180
Min:Sec	5:00	3:20	2:30	2:00	1:40

CATEGORY	A	B	C	D
S-30	1200-½ 544 (600-½)		1200-1 544 (600-1)	1200-1¼ 544 (600-1¼)
CIRCLING	1600-1¼ 944 (1000-1¼)	1620-1½ 964 (1000-1½)	1640-3 984 (1000-3)	1840-3 1184 (1200-3)

LOM ON	APP CRS	Rwy ldg	5199
264	300°	TDZE	656
		Apt Elev	656

NDB RWY 30

WINONA MUNI-MAX CONRAD FIELD (ONA)

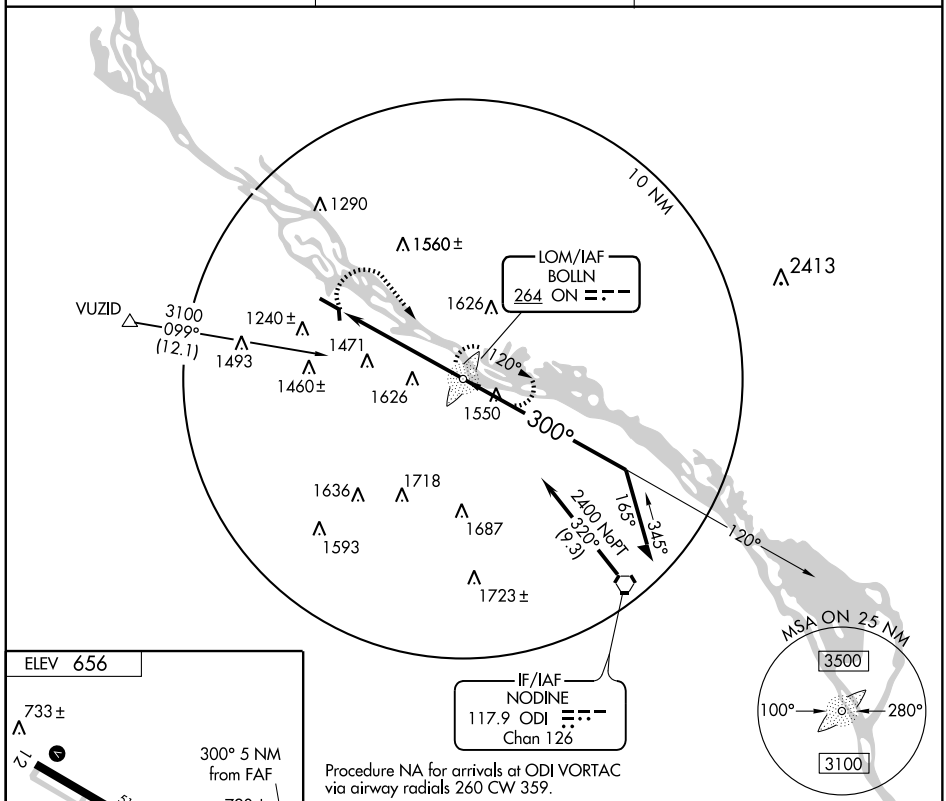
NA

Inoperative table does not apply to Cat A. When local altimeter setting not received, use La Crosse altimeter setting and increase all MDA 60 feet.

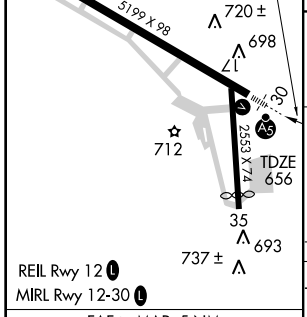
MALSR

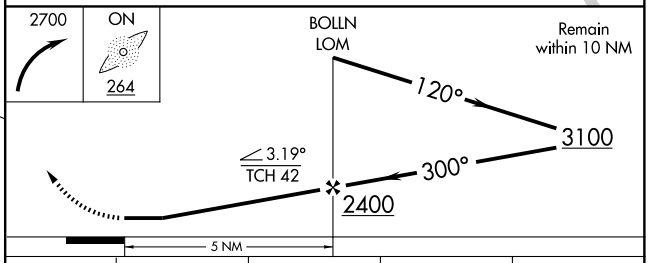
MISSED APPROACH: Climbing right turn to 2700 direct BOLLN LOM and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
111.4	128.6 363.0	122.8 (CTAF) L



Procedure NA for arrivals at ODI VORTAC via airway radials 260 CW 359.





FAF to MAP 5 NM					
Knots	60	90	120	150	180
Min:Sec	5:00	3:20	2:30	2:00	1:40

CATEGORY	A	B	C	D
S-30	1980-1¼ 1324 (1400-1¼)		1980-2½ 1324 (1400-2½)	1980-2¾ 1324 (1400-2¾)
CIRCLING	1980-1¼ 1324 (1400-1¼)	1980-1½ 1324 (1400-1½)	1980-3 1324 (1400-3)	

NC-1. 08 APR 2010 to 06 MAY 2010

APP CRS	Rwy ldg	5199
287°	TDZE	656
	Apt Elev	656

RNAV (GPS) RWY 30

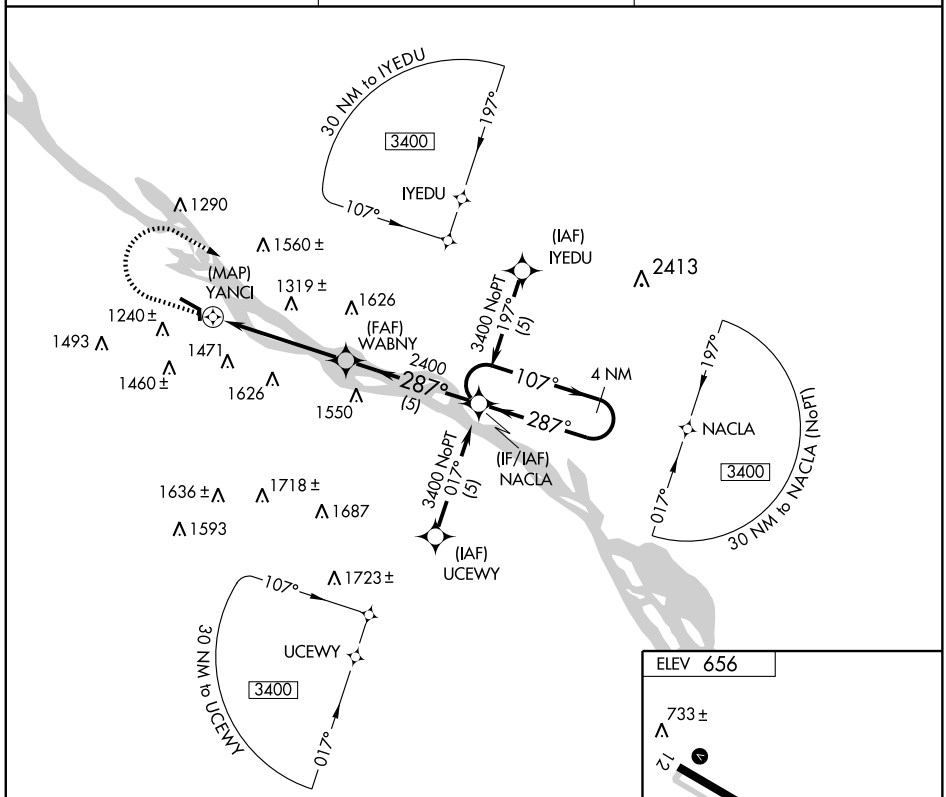
WINONA MUNI-MAX CONRAD FIELD (ONA)

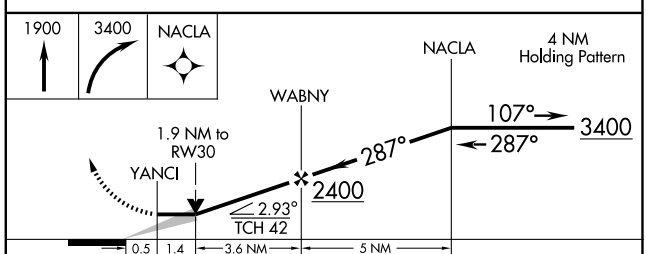
NA GPS or RNP- 0.3 required. DME/DME RNP- 0.3 NA.

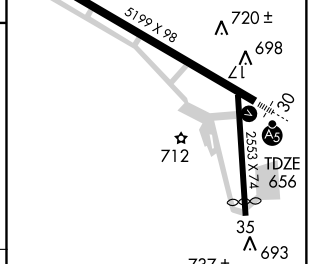
MALSR

MISSED APPROACH: Climb to 1900, then climbing right turn to 3400 direct NACLA WP and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
111.4	128.6 363.0	122.8 (CTAF) L







CATEGORY	A	B	C	D
LNAV MDA	1460-½ 804 (900-½)	1460-¾ 804 (900-¾)	1460-1¾ 804 (900-1¾)	1460-2 804 (900-2)
CIRCLING	1600-1¼ 944 (1000-1¼)	1620-1½ 964 (1000-1½)	1620-3 964 (1000-3)	1840-3 1184 (1200-3)

REIL Rwy 12 L
MIRL Rwy 12-30 L

NC-1. 08 APR 2010 to 06 MAY 2010

VOR/DME ONA 111.4 Chan 51	APP CRS 142°	Rwy ldg N/A TDZE N/A Apt Elev 656

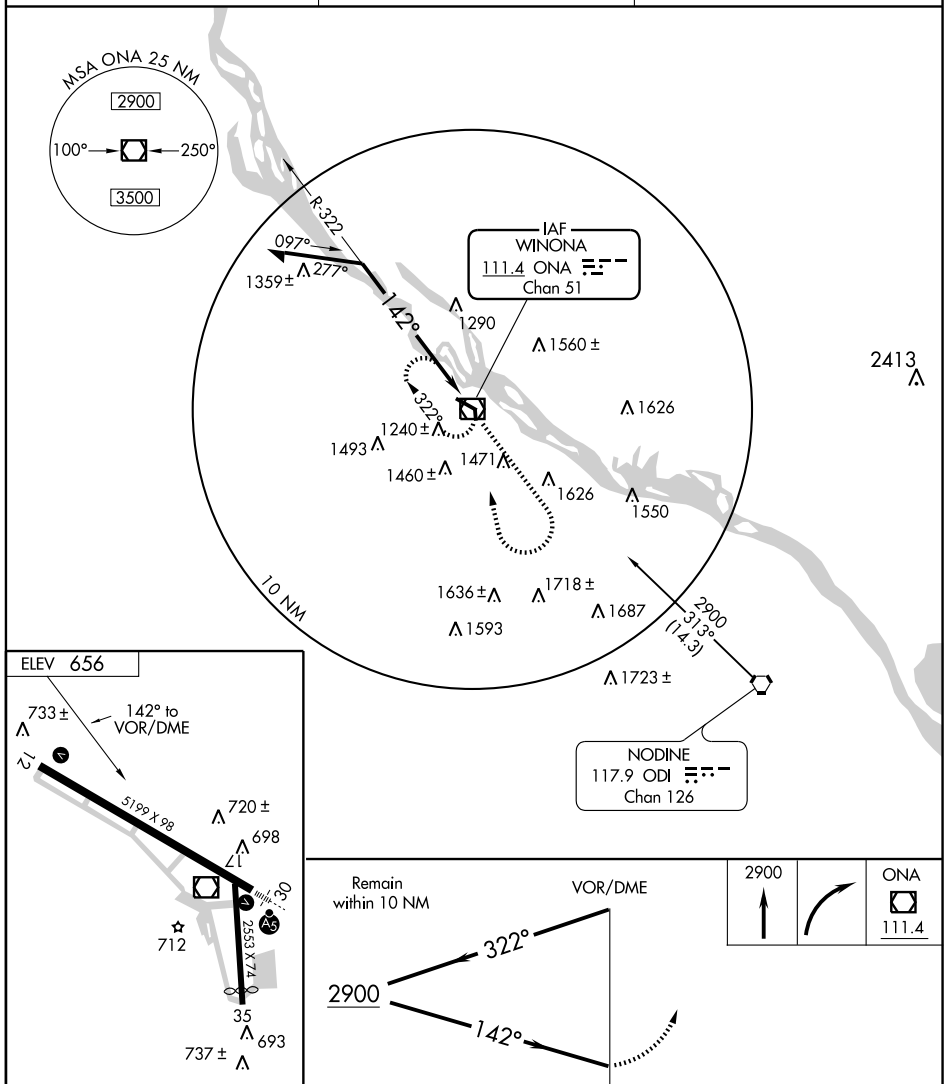
VOR-A

WINONA MUNI-MAX CONRAD FIELD (ONA)

NA

MISSED APPROACH: Climb to 2900 then right turn direct ONA VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
111.4	128.6 363.0	122.8 (CTAF) L



CATEGORY	A	B	C	D
CIRCLING	1660-1¼ 1004 (1100-1¼)	1660-1½ 1004 (1100-1½)	1660-3 1004 (1100-3)	1840-3 1184 (1200-3)

REIL Rwy 12 L
MIRL Rwy 12-30 L

NC-1, 08 APR 2010 to 06 MAY 2010

VOR/DME ONA 111.4 Chan 51	APP CRS 292°	Rwy ldg 5199 TDZE 656 Apt Elev 656

VOR RWY 30

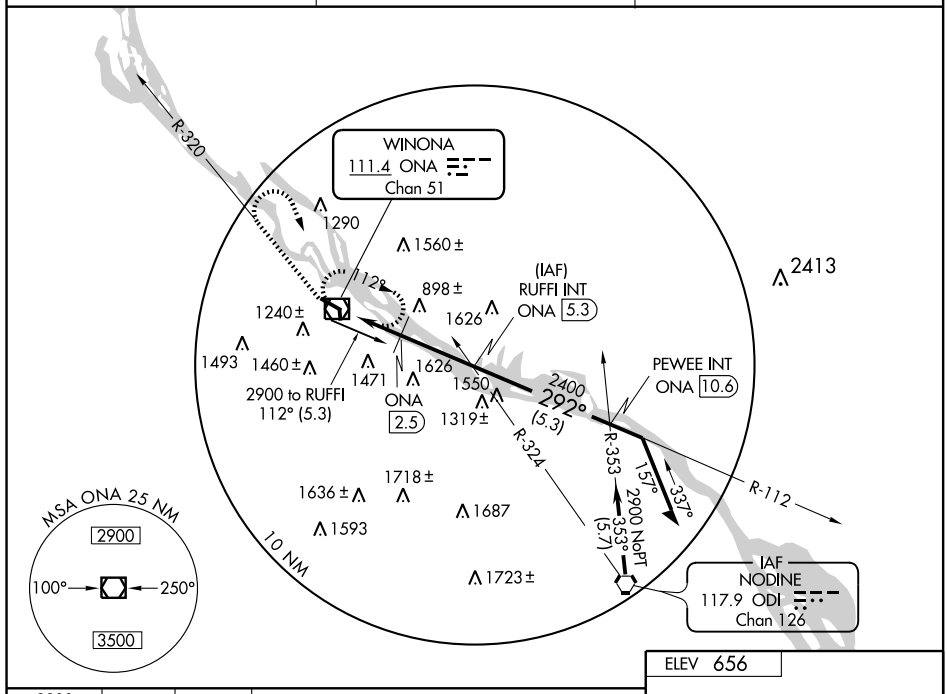
WINONA MUNI-MAX CONRAD FIELD (ONA)

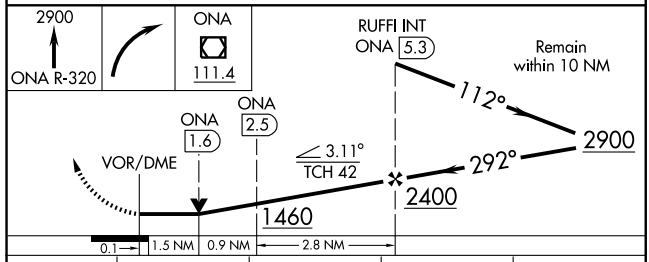
NA

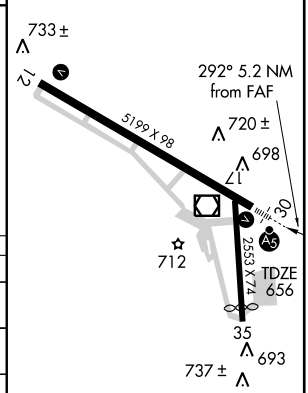
MALSR

MISSED APPROACH: Climb to 2900 via ONA R-320 then right turn direct ONA VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
111.4	128.6 363.0	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-30	1460-½ 804 (900-½)	1460-¾ 804 (900-¾)	1460-1¾ 804 (900-1¾)	1460-2 804 (900-2)
CIRCLING	1600-1¼ 944 (1000-1¼)	1620-1½ 964 (1000-1½)	1620-3 964 (1000-3)	1840-3 1184 (1200-3)
DME MINIMUMS				
S-30	1160-½ 504 (600-½)		1160-1 504 (600-1)	
CIRCLING	1600-1¼ 944 (1000-1¼)	1620-1½ 964 (1000-1½)	1620-3 964 (1000-3)	1840-3 1184 (1200-3)

REIL Rwy 12 L
MIRL Rwy 12-30 L

NC-1. 08 APR 2010 to 06 MAY 2010

LOC I-OTG	APP CRS	Rwy ldg	5499
111.7	288°	TDZE	1570
		Apt Elev	1574

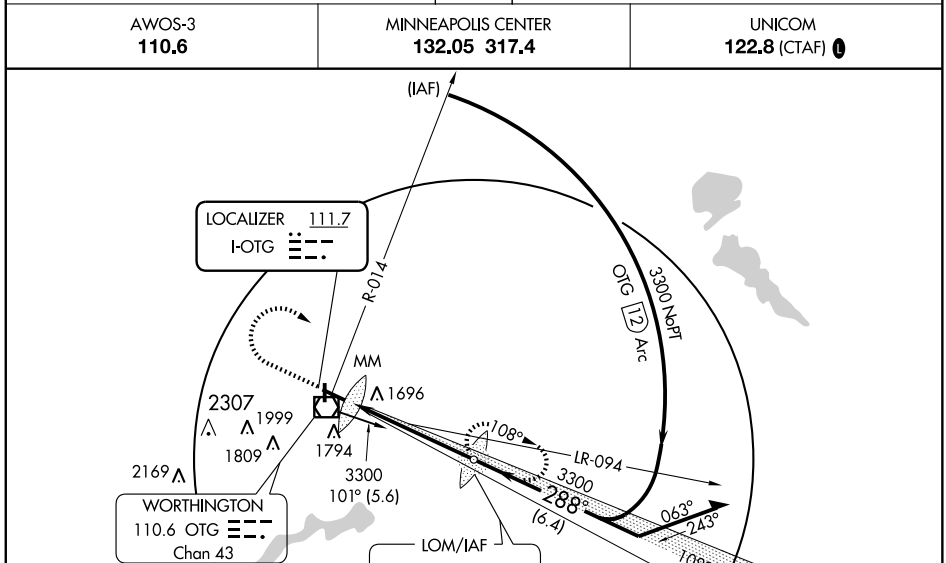
ILS RWY 29
WORTHINGTON MUNI (OTG)

T
NA

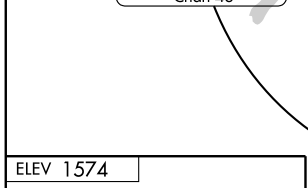
MALSR

MISSED APPROACH: Climb to 2500 then climbing right turn to 3300 direct WONDD LOM/OTG 5.6 DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.6	132.05 317.4	122.8 (CTAF) L

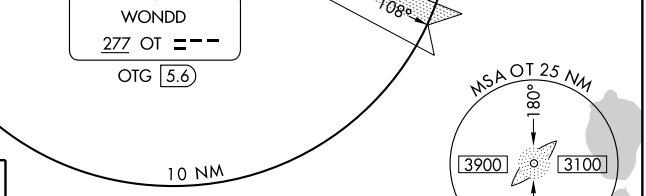


ADF or DME REQUIRED



MIRL Rwy 17-35 L
HIRL Rwy 11-29 L
REIL Rwys 11, 17, and 35 L

FAF to MAP 5 NM					
Knots	60	90	120	150	180
Min:Sec	5:00	3:20	2:30	2:00	1:40



CATEGORY	A	B	C	D
S-ILS 29	1770-½ 200 (200-½)			
S-LOC 29	1920-½ 350 (400-½)			1920-¾ 350 (400-¾)
CIRCLING	2100-1 526 (600-1)		2100-1½ 526 (600-1½)	2140-2 566 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010

LOM OT	APP CRS	Rwy ldg	5499
277	288°	TDZE	1570
		Apt Elev	1574

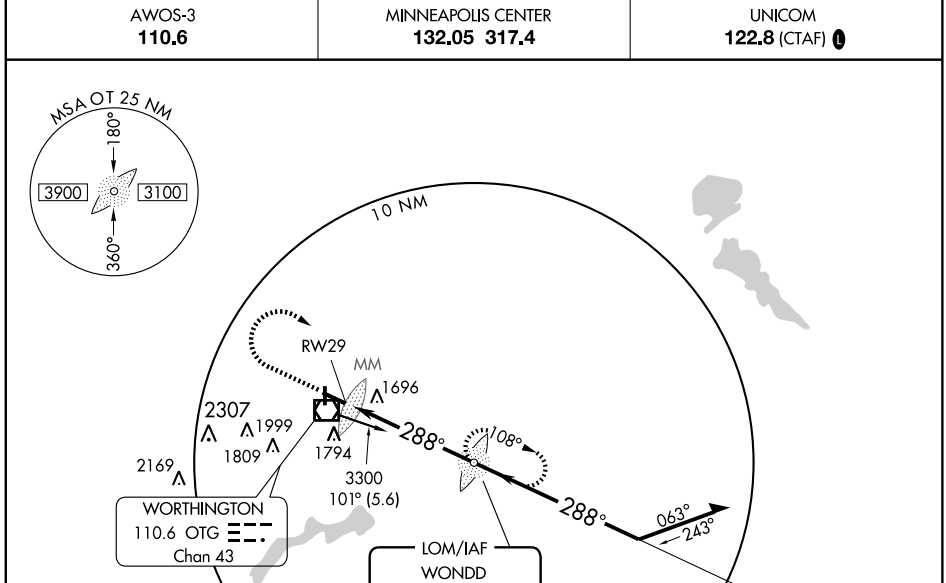
NDB or GPS RWY 29
WORTHINGTON MUNI (OTG)

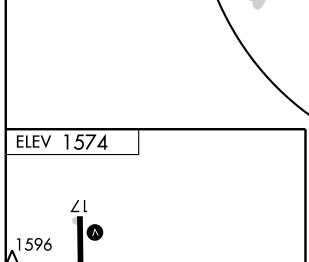
T
NA

MALSR

MISSED APPROACH: Climb to 2500 then climbing right turn to 3300 direct OT LOM and hold.

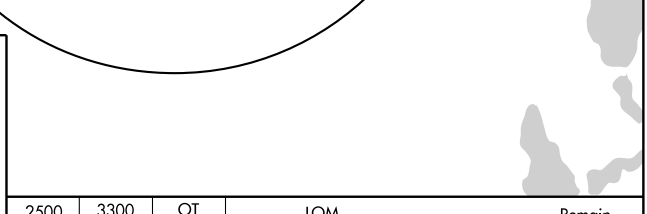
AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.6	132.05 317.4	122.8 (CTAF)





MIRL Rwy 17-35
HIRL Rwy 11-29
REIL Rwys 11, 17, and 35

FAF to MAP 5 NM					
Knots	60	90	120	150	180
Min:Sec	5:00	3:20	2:30	2:00	1:40



CATEGORY	A	B	C	D
S-29	2100-¾ 530 (600-¾)		2100-1 530 (600-1)	2100-1½ 530 (600-1½)
CIRCLING	2100-1 526 (600-1)		2100-1½ 526 (600-1½)	2140-2 566 (600-2)

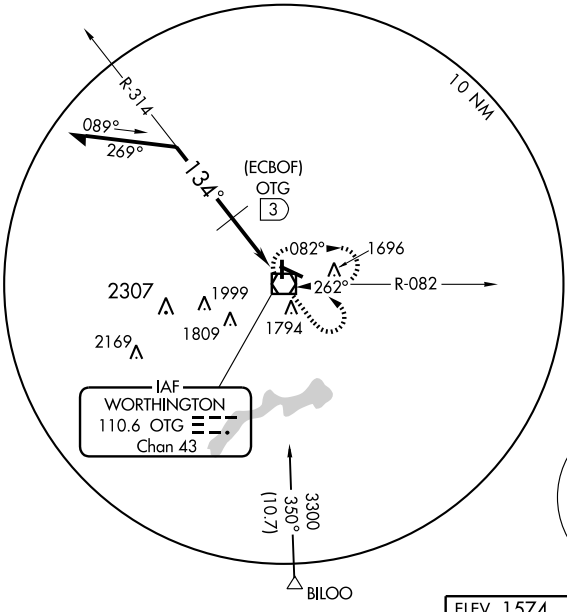
NC-1. 08 APR 2010 to 06 MAY 2010

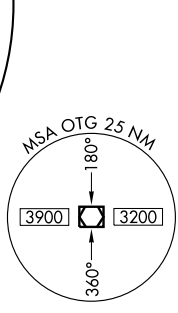
VOR/DME OTG	APP CRS	Rwy ldg	5499
110.6	134°	TDZE	1574
Chan 43		Apt Elev	1574

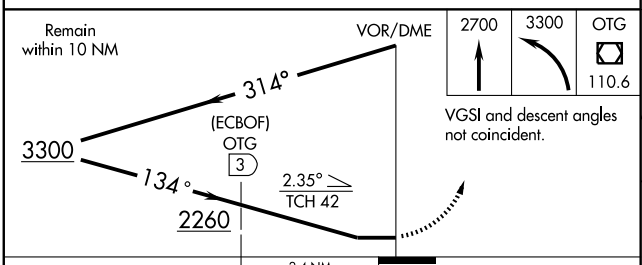
VOR or GPS RWY 11
WORTHINGTON MUNI (OTG)

MISSED APPROACH: Climb to 2700 then climbing left turn to 3300 direct to OTG VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.6	132.05 317.4	122.8 (CTAF) L



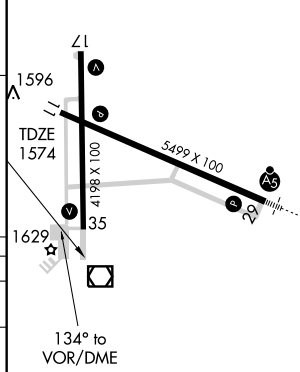




2700	3300	OTG
		110.6

VGSI and descent angles not coincident.

ELEV 1574



CATEGORY	A	B	C	D
S-11	2260-1	686 (700-1)	2260-2 686 (700-2)	2260-2¼ 686 (700-2¼)
CIRCLING	2260-1	686 (700-1)	2260-2 686 (700-2)	2260-2¼ 686 (700-2¼)
DME MINIMUMS				
S-11	2020-1	446 (500-1)	2020-1¼ 446 (500-1¼)	2020-1½ 446 (500-1½)
CIRCLING	2100-1	526 (600-1)	2100-1½ 526 (600-1½)	2140-2 566 (600-2)

MIRL Rwy 17-35 L
HIRL Rwy 11-29 L
REIL Rwys 11, 17, and 35 L

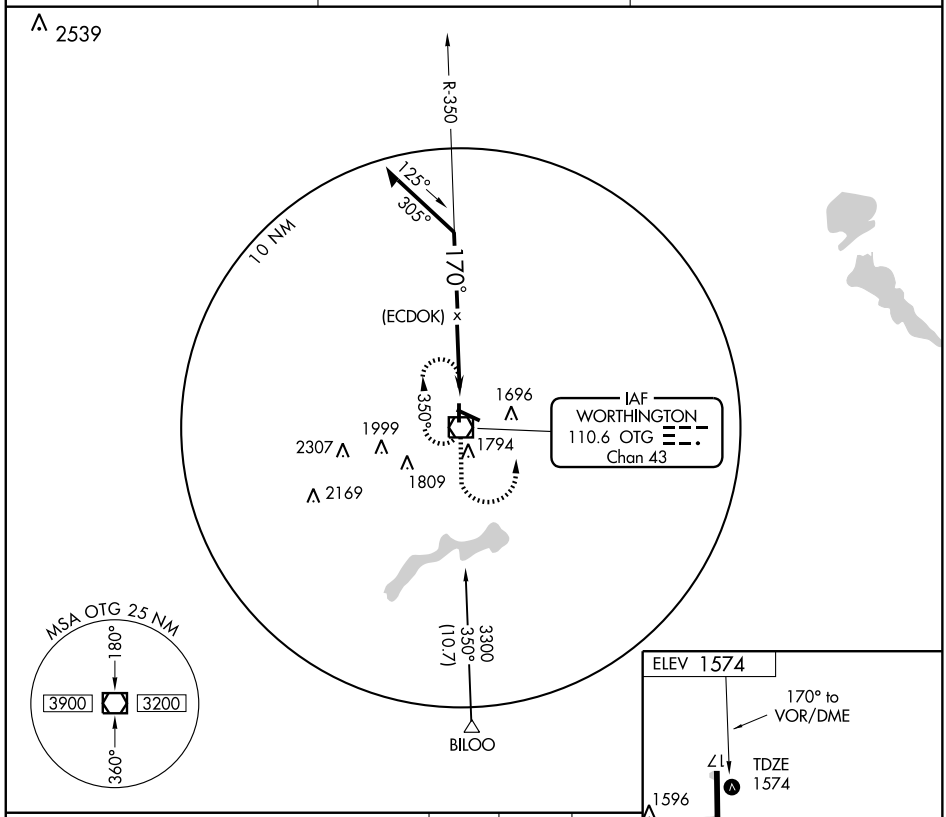
NC-1. 08 APR 2010 to 06 MAY 2010

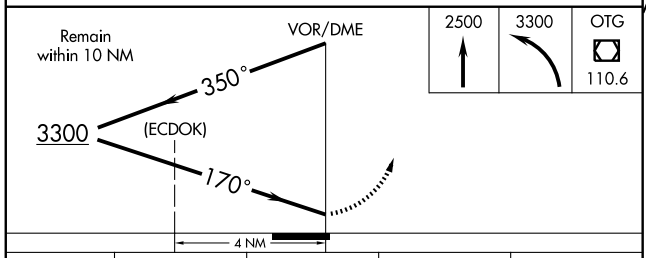
VOR/DME OTG	APP CRS	Rwy ldg	4198
110.6	170°	TDZE	1574
Chan 43		Apt Elev	1574

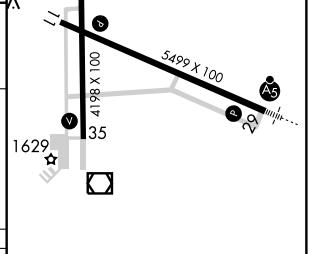
VOR or GPS RWY 17
WORTHINGTON MUNI (OTG)

MISSED APPROACH: Climb to 2500 then climbing left turn to 3300 direct OTG VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.6	132.05 317.4	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-17	2000-1 426 (500-1)		2000-1¼ 426 (500-1¼)	
CIRCLING	2100-1 526 (600-1)		2100-1½ 526 (600-1½)	2140-2 566 (600-2)

MIRL Rwy 17-35 L
HIRL Rwy 11-29 L
REIL Rwys 11, 17, and 35 L

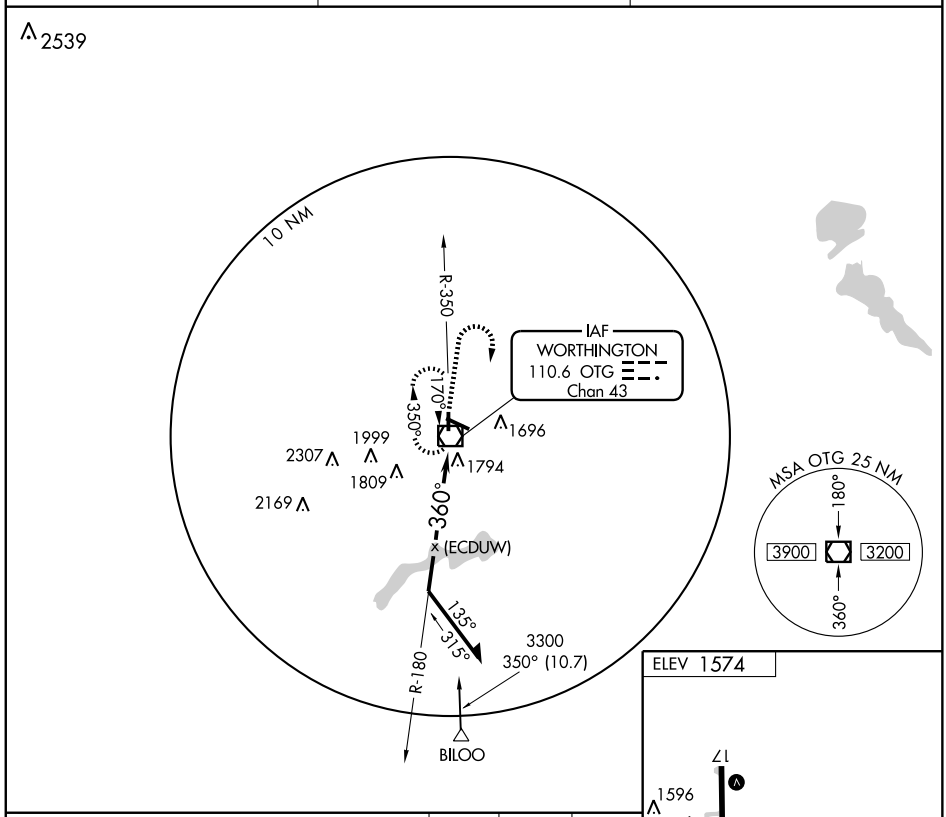
NC-1. 08 APR 2010 to 06 MAY 2010

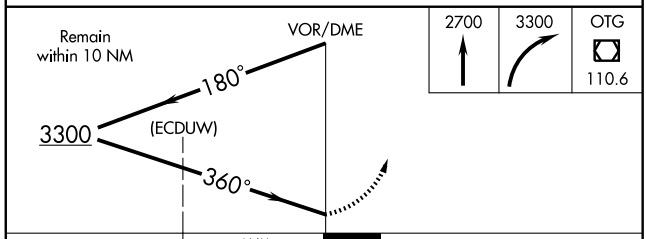
VOR/DME OTG	APP CRS	Rwy ldg	4198
110.6	360°	TDZE	1574
Chan 43		Apt Elev	1574

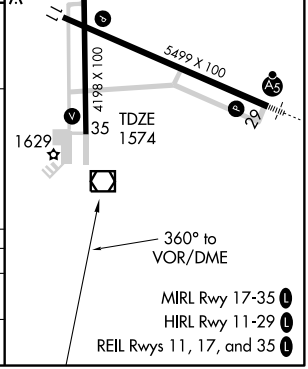
VOR or GPS RWY 35
WORTHINGTON MUNI (OTG)

MISSED APPROACH: Climb to 2700 then climbing right turn to 3300 direct OTG VOR/DME and hold.

AWOS-3	MINNEAPOLIS CENTER	UNICOM
110.6	132.05 317.4	122.8 (CTAF) L







CATEGORY	A	B	C	D
S-35	2100-1	526 (600-1)	2100-1½ 526 (600-1½)	2100-1¾ 526 (600-1¾)
CIRCLING	2100-1	526 (600-1)	2100-1½ 526 (600-1½)	2140-2 566 (600-2)

NC-1. 08 APR 2010 to 06 MAY 2010